COMMUNITY DEVELOPMENT AGENCY
DEVELOPMENT SERVICES DIVISION
http://www.edcgov.us/DevServices/

PLACERVILLE OFFICE:
2850 Fairlane Court, Placerville, CA 95667
BUILDING
(530) 621-5315 / (530) 622-1708 Fax
bldgdept@edcgov.us
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planning@edcgov.us

LAKE TAHOE OFFICE:
3368 Lake Tahoe Blvd., Suite 302
South Lake Tahoe, CA 96150
(530) 573-3330
(530) 542-9082 Fax
tahoebuild@edcgov.us

TO:	Planning Commission	Agenda of:	September 12, 2013
FROM:	Tom Dougherty, Project Planner	Item No.:	11
DATE:	August 7, 2013		

RE: PD12-0003/Green Valley Convenience Center; Alternative Exhibits/Design Waiver Request (Revised Findings and Conditions of Approval)

The Planning Commission heard the project on July 11, 2013. A number of issues were raised, including noise, aesthetics, traffic, and potential impacts to the intermittent stream. The applicant has proposed alternative designs to address some of these issues, as well as completed a supplemental noise study. The submitted alternatives are summarized as follows:

- Green Valley Road Encroachment: The "Proposed Curb Line Adjustment Plan" shows a design that increases the length of the tapers. A Design Waiver request to allow that deviation from Standard Plan 103-D is included.
- The AM/PM and Schlotzsky's buildings: Alternative material colors have been proposed.
- Fuel Canopy: An alternative design sketch has been submitted that includes a metal gabled roof.
- Carwash: An alternative design sketch has been submitted that includes a metal roof with stone, and stucco walls.
- Trash Enclosure: A new design that includes a roof, as well as an alternative location.
- Signage: An alternative design for the site identification monument sign, showing it at 16-feet tall reducing it to 76.6 square feet, and adding wood and stone features.
- Driveway Trellis: A new trellis design for the drive-through driveway area.

Additionally, three schematic color renderings of the project were submitted.

On August 1, 2013, staff received a supplemental noise study for the Green Valley Convenience Center, entitled "Environmental Noise Analysis ARCO AM/PM Car Wash at Green Valley Road & Sophia Parkway", dated July 18, 2013, prepared by Bollard Acoustical Consultants, Inc. This study was conducted to address concerns that not all nearby noise receptors were considered in the original noise analysis. The study identified a new potentially significant impact from noise generated by the car wash

during the evening and nighttime. The predicted noise would exceed the standards set forth in the General Plan. An additional mitigation measure, requiring doors on the car wash, was recommended.

Section 15073.5 of the Guidelines sets forth the requirements for when recirculation of a negative declaration is required. One of these is when "a new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance." Staff has revised the proposed mitigated negative declaration to address this issue, has added the proposed new mitigation measure, and it has been re-circulated for the required 30-day review through the State Clearinghouse. The Proposed Mitigated Negative Declaration and Initial Study (Exhibit Q of the staff report), will be replaced with this revised version which is included as Attachment 4 of this memo.

The alternative encroachment design "Proposed Curbline Adjustment, sheet C4.0 of 6, includes a Design Waiver request from Standard Plan 103-D to allow a longer taper for the encroachment. Findings for approval of the Design Waiver are included in the Revised Attachment 2.

The applicant is requesting consideration of the original proposal but has offered the alternative design if the Commission find that these modifications address concerns of the Commission. Planning staff finds that the alternatives improve the aesthetic design of the project and is, therefore, recommending the Planning Commission approve the project with these modifications. None of the changes increase potential environmental impacts.

Should the Commission find the original submission is sufficient to meet County standards and satisfy the required findings for approval of the Planned Development, the original conditions and findings contained in the July 11, 2013 staff report may be used, with the addition of the new Mitigation Measure to address noise from the car wash.

RECOMMENDATION: Staff recommends the Planning Commission take the following actions:

1. Adopt the Revised Mitigated Negative Declaration based on the Initial Study prepared by staff;

2. Adopt the Mitigation Monitoring Program in accordance with CEQA Guidelines, Section 15074(d), as incorporated in the Revised Conditions of Approval and Mitigation Measures in Attachment 1;

3. Conditionally approve Planned Development PD12-0003, based on the Revised Findings in Attachment 2 and subject to the Revised Conditions of Approval in Attachment 1;

4. Approve the Finding of Consistency with General Plan Policy 7.3.3.4 to allow a reduction of the wetland setback from 50 feet to 10 feet based on the Revised Findings in Attachment 2; and

5. Approve the request for a Design Waiver to allow the deviation from Standard Plan 103-D to allow a longer taper for the encroachment onto Green Valley Road based on the Revised Findings in Attachment 2.

ATTACHMENTS

Attachment 1.....Revised Conditions of Approval; Planning Commission/September 12, 2013
Attachment 2.....Revised Findings; Planning Commission/September 12, 2013
Attachment 3.....Applicant's "Design Submission"; July 31, 2013
Attachment 4.....Revised Mitigated Negative Declaration (Revised Exhibit Q)

DESIGN SUBMISSION

TO

COUNTY OF EL DORADO PLANNING COMMISSION

FOR

GREEN VALLEY CONVENIENCE CENTER

EL DORADO HILLS, CALIFORNIA

07/31/2013

PREPARED FOR

THE STRAUCH COMPANIES

BY

BARGHAUSEN CONSULTING ENGINEERS, INC.

Attachment 3

El Dorado County
Planning Department
2850 Fairlane Crt., Building C
Placerville, CA 95667

RE: S-12-0015 - Special Use Permit Application
PD-12-0003 - Planned Development Permit Application

New Gas Station, Convenience Store, Fast Food Facility and Carwash
SEC Green Valley Road @ Sophia Parkway, El Dorado Hills, CA 95829
ARCO Facility #: NTI / Our Job No. 15593.1

SUBMISSION NARRATIVE

DRIVEWAY / ROAD REVISION AT GREEN VALLEY ROAD
The attached sheet C4.0 – Proposed Curb Line Adjustment Plan does not replace the previously submitted drawings, but serves to provide our response to the community–directed request for a more gentle transition from Green Valley Road to the site access driveway along the northern property boundary. Included in this submission is our application, Design Waiver Request - ARCO AM/PM dated July 30, 2013 which provides the Basis for Consideration together with the Design Waiver Narrative.

AM/PM – SCHLOTZSKY'S BUILDING
Responding to community requests, the attached sheets A2.1 and A2.2 – Exterior Elevations, together with the attached Color Board are intended to provide a design alternative to the previously submitted documents. While these sheets do not replace corresponding previously submitted documents, the alternative designs presented will be incorporated into the submission set if approved by the Planning Commission. The community had concerns about the potential for elevated noise levels coming from the drive-through ordering system associated with the proposed Schlotzsky's restaurant. To address this concern we retained Bollard Acoustical Consultants, Inc. to update their original report to include the effect of the ordering speakers on specific neighboring residential properties. This updated report is included in this submittal.

FUEL CANOPY
Responding to community requests, the attached preliminary sketch portraying the fuel canopy puts forth a design alternative. The attached sketch does not replace the previously submitted drawings, but serve to provide an alternative that, upon approval by the Planning Commission, will be incorporated into the project design.

CARWASH
The attached carwash perspective sketch does not replace the previously submitted drawings. This sketch includes design elements used on the main building and site improvements. Upon approval by the Planning Commission, these elements will be incorporated into the project design. Additionally, the community had concerns about the potential for elevated noise levels emanating from the proposed carwash. To address this concern we retained Bollard Acoustical Consultants, Inc. to update their original report to include the effect of the carwash and vacuum units on specific neighboring residential properties. This updated report is included in this submittal.

TRASH ENCLOSURE
The attached sheet TE.1 – Trash Enclosure, elevations 1, 2, 4, and 6 presents the proposed design for a metal roof, material and color to match the roofs on the other proposed structures, as requested by the community. Upon approval by the Planning Commission, these elements will be incorporated into the project design.

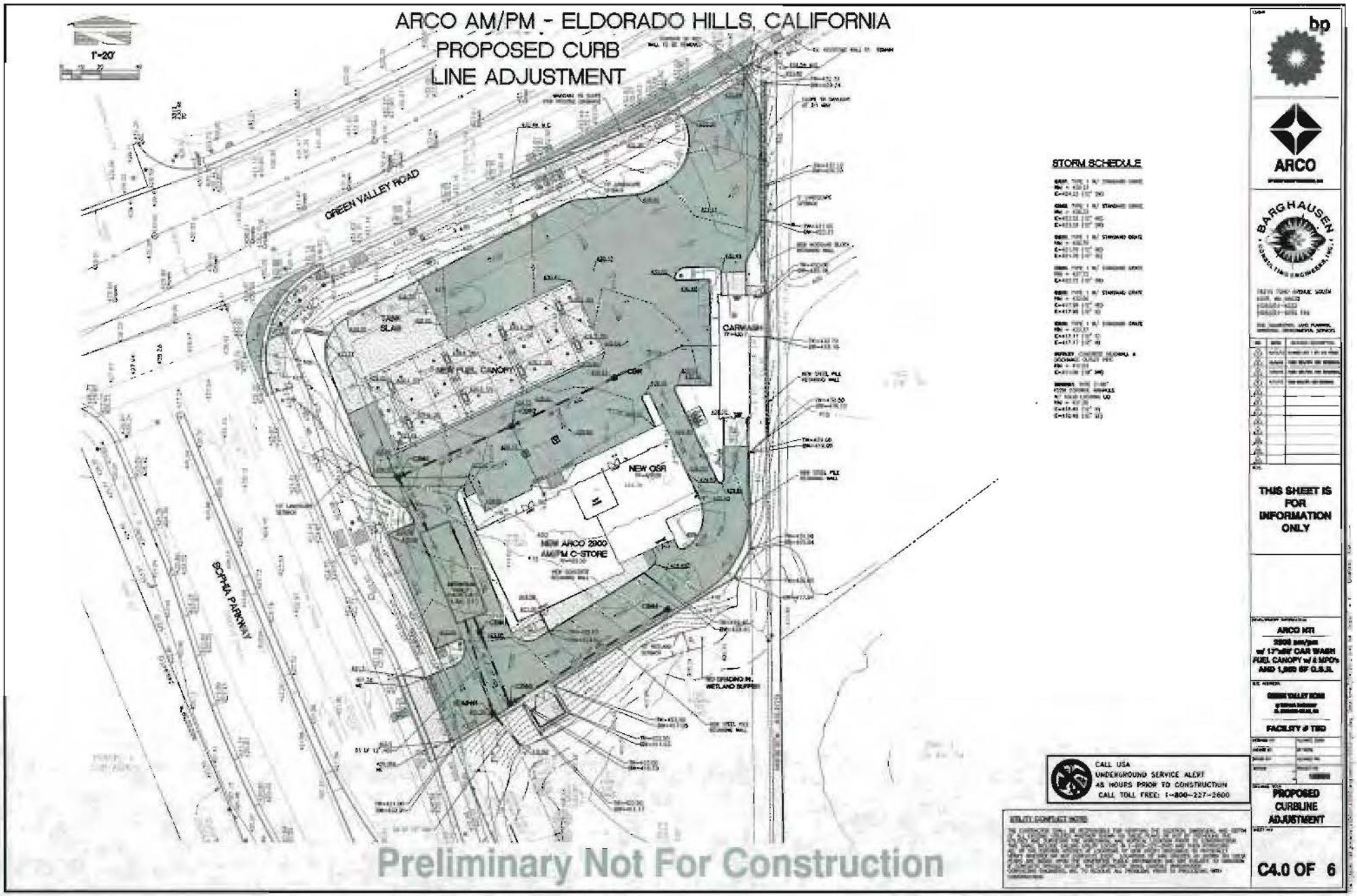
SITE FEATURES: Signage, Driveway Trellis, Relocation of Trash Enclosure
The Site Identification Sign drawing, sheet A.02 – Drive-Through Sections, and sheet SP-1 – Preliminary Site Plan do not replace the previously submitted drawings, but serve to provide an alternative design solution addressing concerns expressed by the community. Upon approval by the Planning Commission, these elements will be incorporated into the project design.

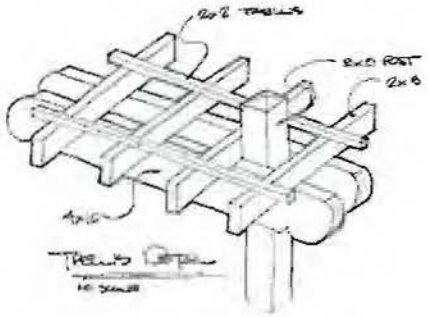
To further clarify the overall design proposal, we have included in this submission three schematic color renderings of the Project, taken from three different perspective; the northwest corner of the site from Green Valley Road at the intersection looking southeast, the northeast corner of the site from Green Valley Road looking southwest, and the southwest corner of the site from Sophia Parkway looking northeast.

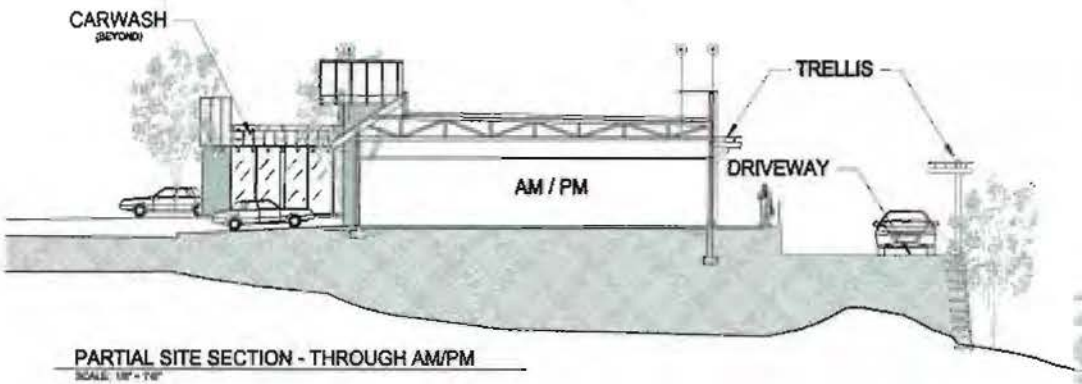
NORTHEAST CORNER AT GREEN VALLEY ROAD
FACING SOUTHWEST

NORTHWEST CORNER AT GREEN VALLEY ROAD
FACING SOUTHEAST

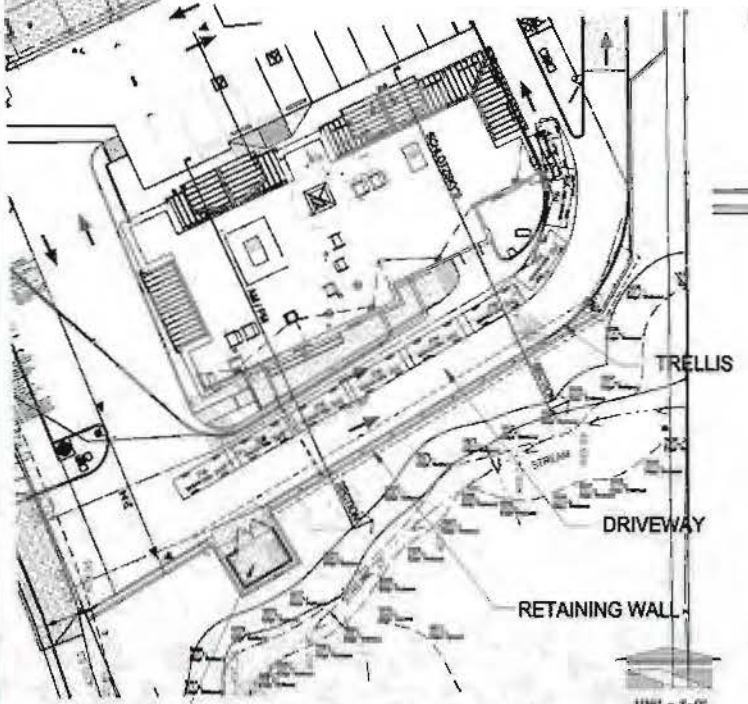
SOUTHWEST CORNER AT SOPHIA PARKWAY
FACING NORTHEAST


ARCO AM/PM - ELDORADO HILLS, CALIFORNIA
PROPOSED CURB
LINE ADJUSTMENT
1"=20'
GREEN VALLEY ROAD
SOPHIA PARKWAY
CARWASH
NEW FUEL CANOPY
NEW OSR
NEW ARCO 2900
AM/PM C-STORE
STORM SCHEDULE
bp
ARCO
BARGHAUSEN
THIS SHEET IS FOR INFORMATION ONLY
ARCO NTI
FACILITY # TBD
PROPOSED CURBLINE ADJUSTMENT
C4.0 OF 6
CALL USA
UNDERGROUND SERVICE ALERT
48 HOURS PRIOR TO CONSTRUCTION
CALL TOLL FREE: 1-800-227-2600
Preliminary Not For Construction

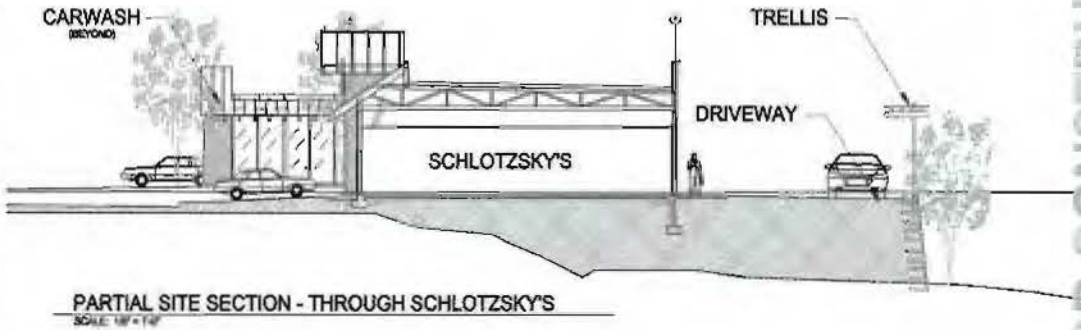




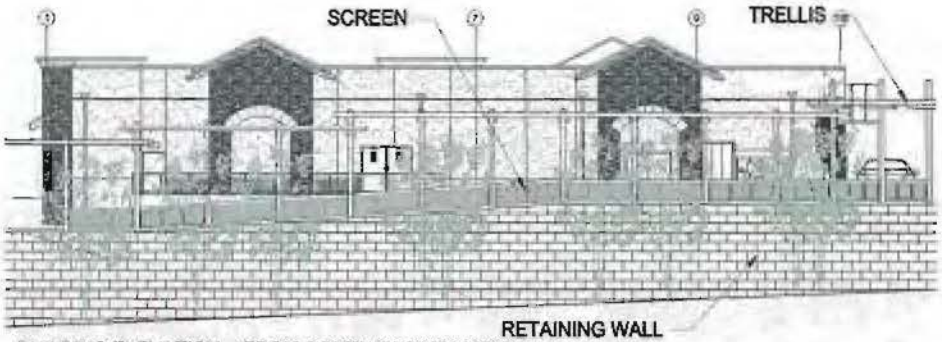
PARTIAL SITE SECTION - THROUGH AM/PM



PARTIAL SITE PLAN OF DRIVE-THROUGH



PARTIAL SITE SECTION - THROUGH SCHLOTZSKY'S



BUILDING ELEVATION - FROM SOUTH FACING NORTH

NOT FOR CONSTRUCTION

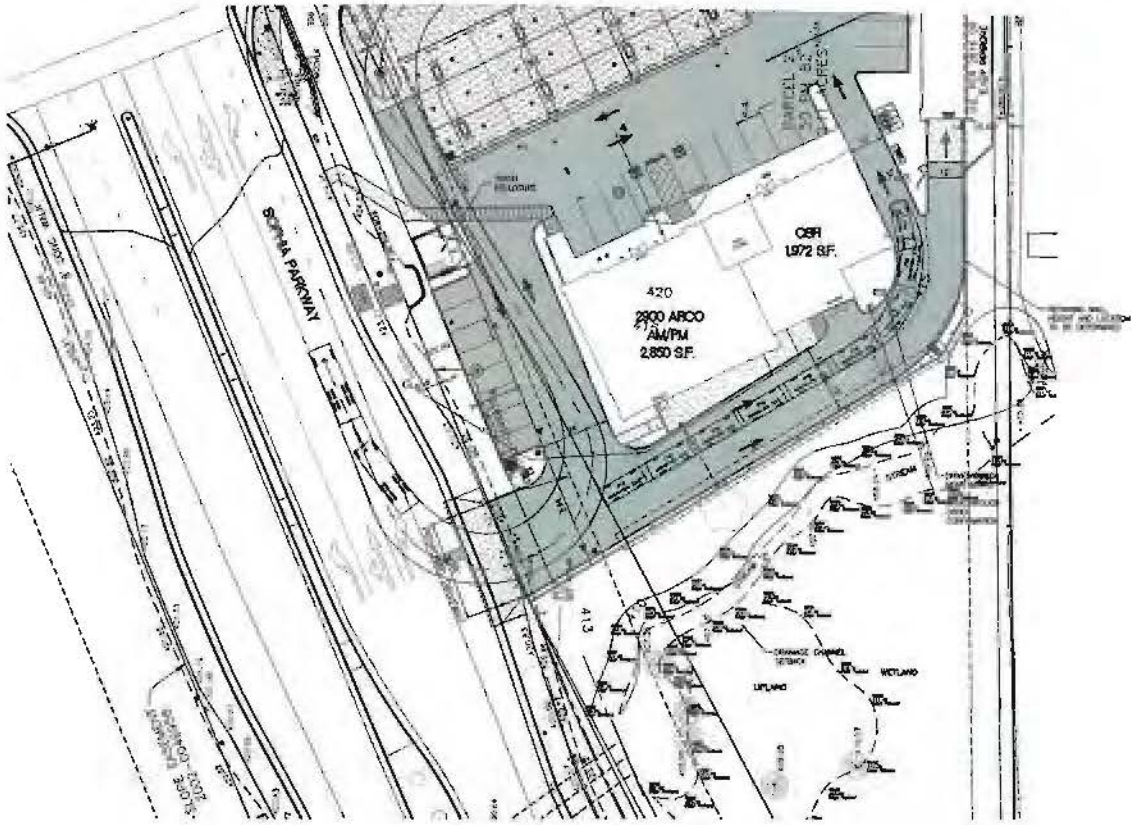
THIS SHEET IS FOR INFORMATION ONLY

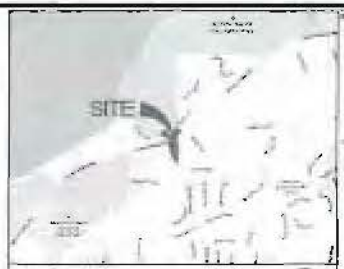
ARCO NTI

DRIVE-THROUGH SITE SECTIONS

A.02

PRELIMINARY SITE PLAN
DT- AM/PM - SCHLOTZSKY'S
(alternate trash enclosure)





bp

ARCO

BARGHAUSEN CONSULTING ENGINEERS, INC.

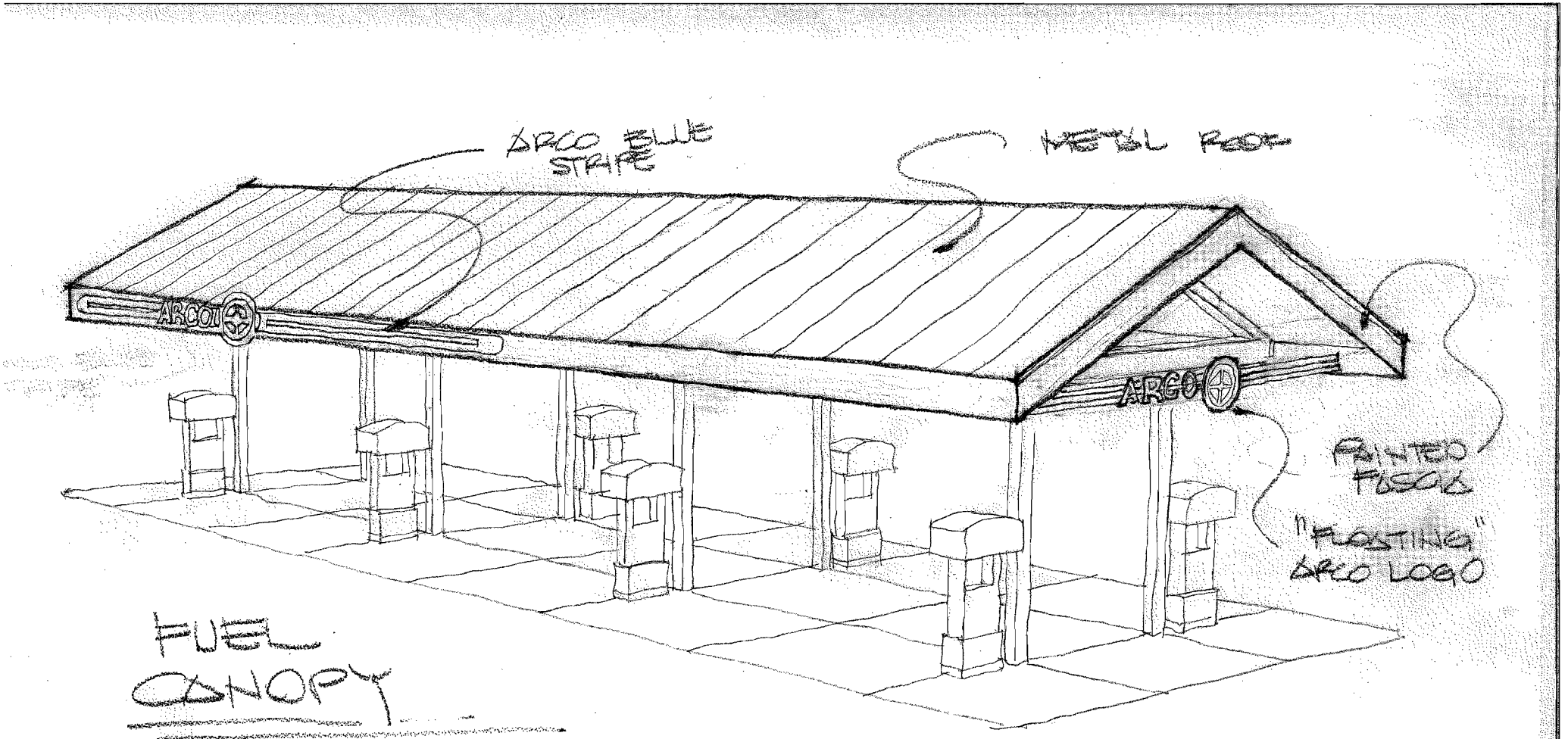
THIS SHEET IS FOR INFORMATION ONLY

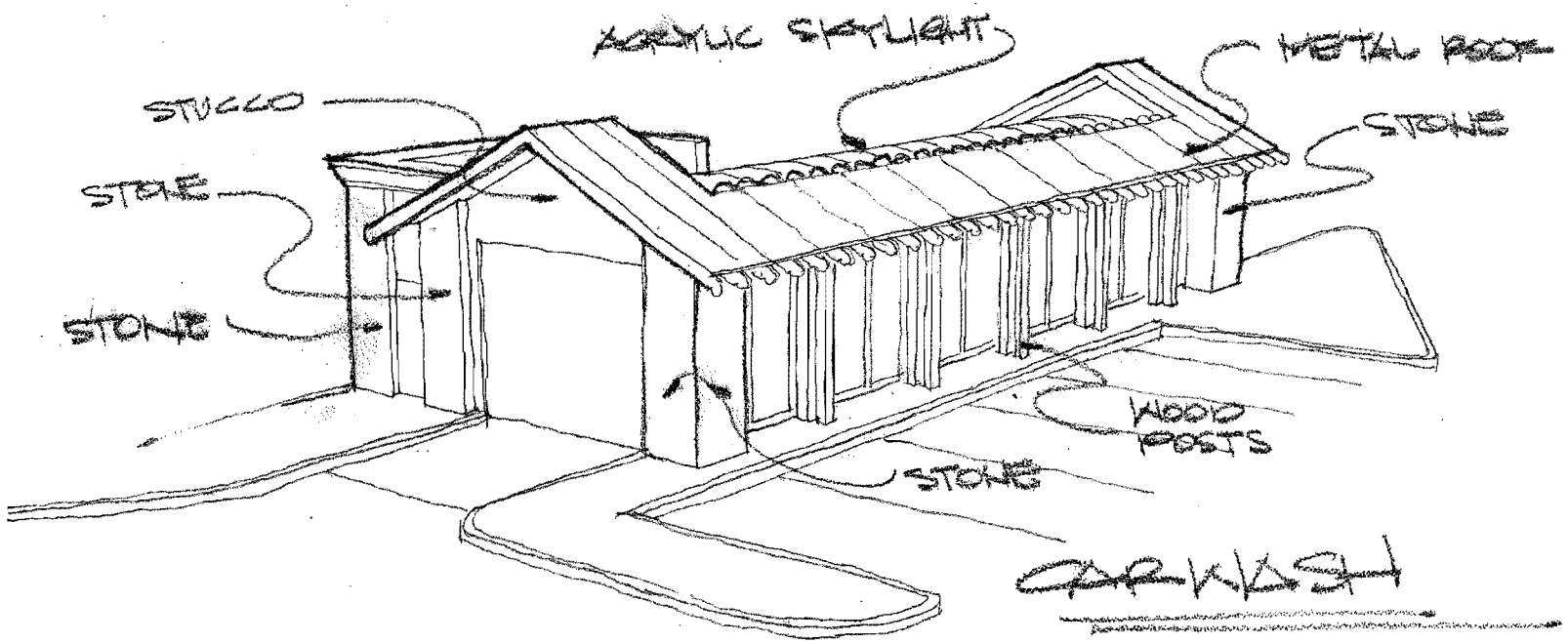
NOT FOR CONSTRUCTION

ALTERNATE TRASH ENCLOSURE LOCATION

SP-1 (ALT)

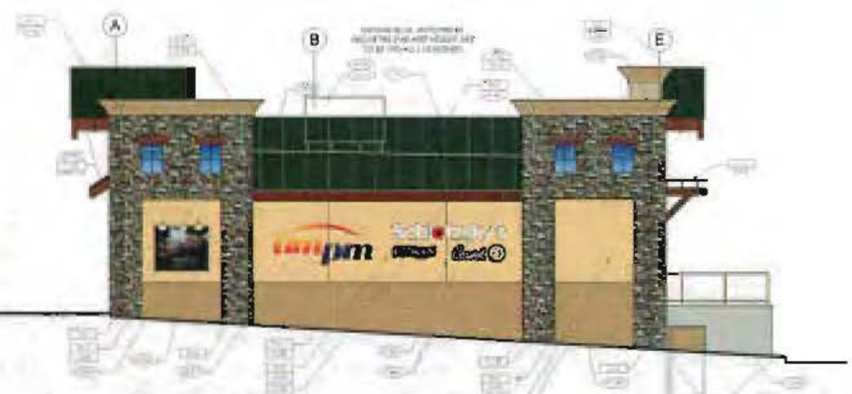
Preliminary Not For Construction


ARCO BLUE STRIPE
METAL ROOF
ARCO
ARCO
PAINTED FASCIA
"FLOATING" ARCO LOGO
FUEL CANOPY


ACRYLIC SKYLIGHT
METAL ROOF
STUCCO
STONE
STONE
STONE
WOOD POSTS
STONE
CARWASH

1 NORTH ELEVATION

1/4" = 1'-0"



2 WEST ELEVATION

1/4" = 1'-0"

EXTERIOR FINISHES:

EXTERIOR PAINTS:

GENERAL NOTES:

KEYED NOTES:

Preliminary Not For Construction

bp

ARCO

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THIS SHEET IS FOR INFORMATION ONLY

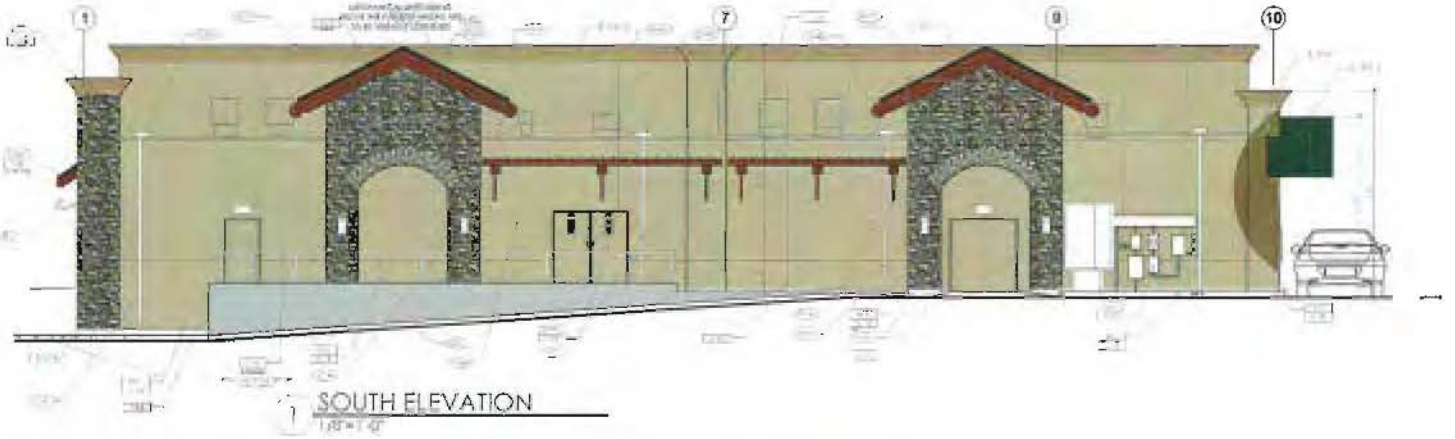
ARCO NTI

2900 am/pm w/ 17'x65' CAR WASH FUEL CANOPY w/ 8 MPD's AND 1,900 SF O.S.R.

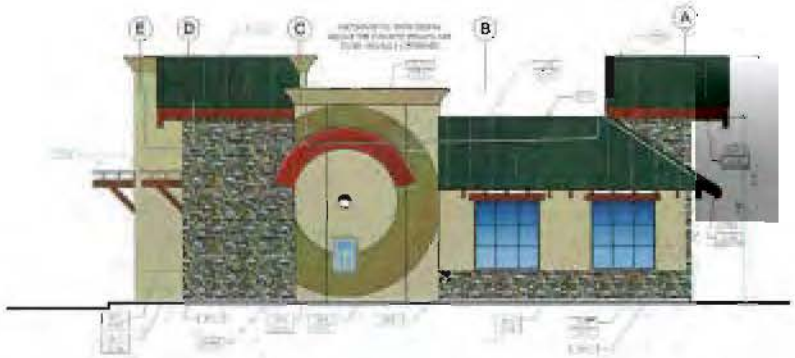
FACILITY # TBD

COMPOSITE ELEVATIONS

A2.1



1 SOUTH ELEVATION



2 EAST ELEVATION

Preliminary Not For Construction

EXTERIOR FINISHES:

EXTERIOR PAINTS:

GENERAL NOTES:

KEYED NOTES:

bp

ARCO

BARGHAUSEN

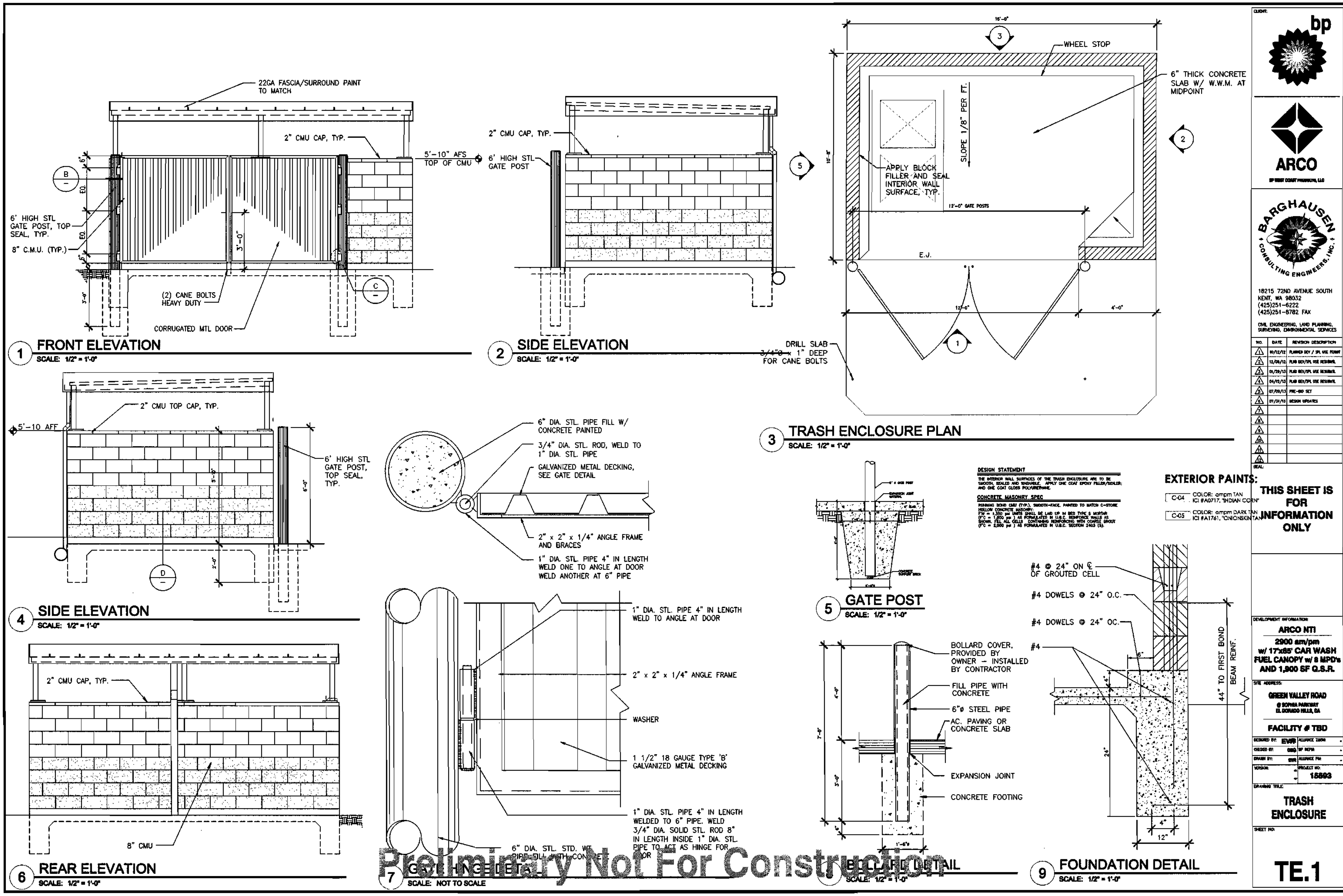
THIS SHEET IS FOR INFORMATION ONLY

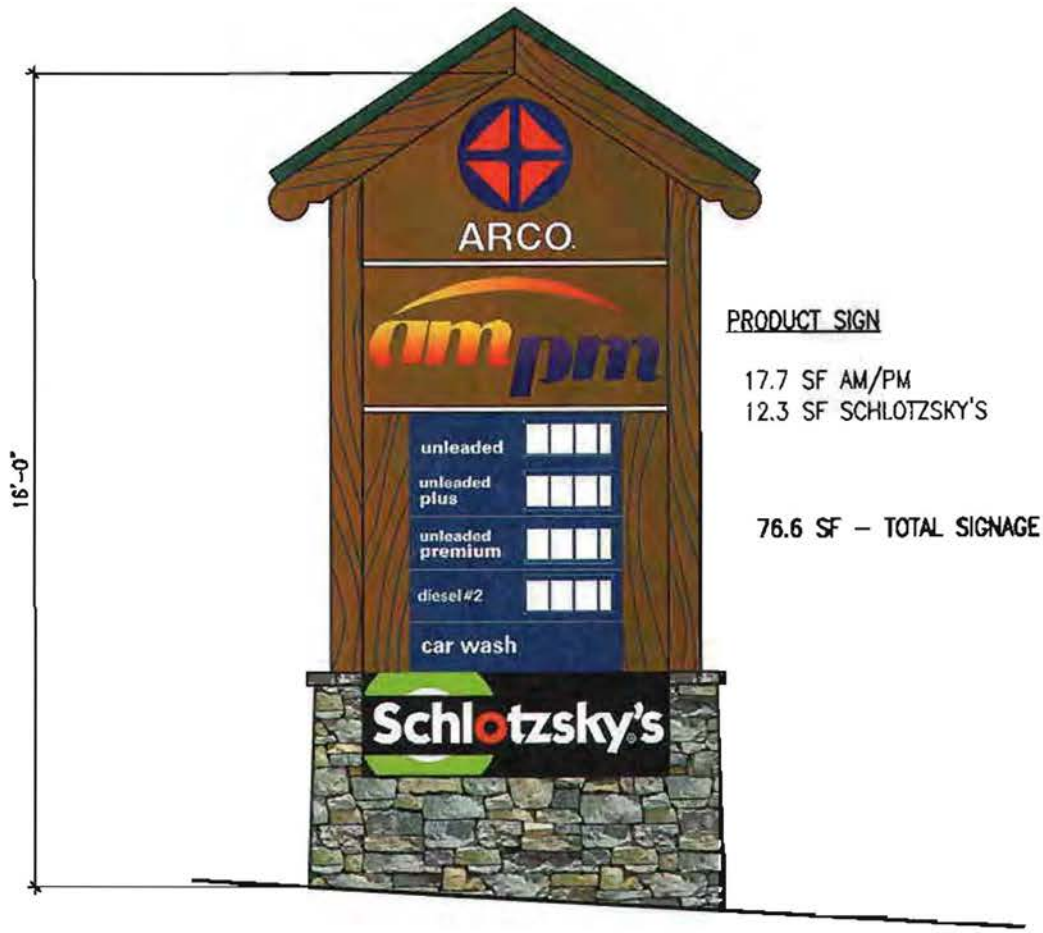
ARCO #TBD

FACILITY # TBD

COMPOSITE ELEVATIONS

A2.2


22GA FASCIA/SURROUND PAINT TO MATCH
2" CMU CAP, TYP.
5'-10" AFS TOP OF CMU
6' HIGH STL GATE POST, TOP SEAL, TYP.
8" C.M.U. (TYP.)
(2) CANE BOLTS HEAVY DUTY
CORRUGATED MTL DOOR
1 FRONT ELEVATION
SCALE: 1/2" = 1'-0"
6' HIGH STL GATE POST
2 SIDE ELEVATION
SCALE: 1/2" = 1'-0"
WHEEL STOP
6" THICK CONCRETE SLAB W/ W.W.M. AT MIDPOINT
SLOPE 1/8" PER FT.
APPLY BLOCK FILLER AND SEAL INTERIOR WALL SURFACE, TYP.
E.J.
DRILL SLAB 3/4"⌀ x 1" DEEP FOR CANE BOLTS
3 TRASH ENCLOSURE PLAN
SCALE: 1/2" = 1'-0"
2" CMU TOP CAP, TYP.
5'-10 AFF
6' HIGH STL GATE POST, TOP SEAL, TYP.
4 SIDE ELEVATION
SCALE: 1/2" = 1'-0"
6" DIA. STL. PIPE FILL W/ CONCRETE PAINTED
3/4" DIA. STL. ROD, WELD TO 1" DIA. STL. PIPE
GALVANIZED METAL DECKING, SEE GATE DETAIL
2" x 2" x 1/4" ANGLE FRAME AND BRACES
1" DIA. STL. PIPE 4" IN LENGTH WELD ONE TO ANGLE AT DOOR WELD ANOTHER AT 6" PIPE
1" DIA. STL. PIPE 4" IN LENGTH WELD TO ANGLE AT DOOR
2" x 2" x 1/4" ANGLE FRAME
WASHER
1 1/2" 18 GAUGE TYPE 'B' GALVANIZED METAL DECKING
1" DIA. STL. PIPE 4" IN LENGTH WELDED TO 6" PIPE. WELD 3/4" DIA. SOLID STL. ROD 8" IN LENGTH INSIDE 1" DIA. STL. PIPE TO ACT AS HINGE FOR DOOR
6" DIA. STL. STD. W/ PIPE FILL WITH CONCRETE
7 GATE HINGE DETAIL
SCALE: NOT TO SCALE
2" CMU CAP, TYP.
8" CMU
6 REAR ELEVATION
SCALE: 1/2" = 1'-0"
5 GATE POST
SCALE: 1/2" = 1'-0"
DESIGN STATEMENT
CONCRETE MASONRY SPEC
EXTERIOR PAINTS:
C-04 COLOR: ampm TAN ICI #A0717, "INDIAN CORN"
C-05 COLOR: ampm DARK TAN ICI #A1761, "ONIONSKIN TAN"
BOLLARD COVER, PROVIDED BY OWNER - INSTALLED BY CONTRACTOR
FILL PIPE WITH CONCRETE
6"⌀ STEEL PIPE
AC. PAVING OR CONCRETE SLAB
EXPANSION JOINT
CONCRETE FOOTING
8 BOLLARD DETAIL
SCALE: 1/2" = 1'-0"
#4 @ 24" ON ℄ OF GROUTED CELL
#4 DOWELS @ 24" O.C.
#4 DOWELS @ 24" OC.
#4
44" TO FIRST BOND BEAM REINF.
9 FOUNDATION DETAIL
SCALE: 1/2" = 1'-0"
bp
ARCO
BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES
THIS SHEET IS FOR INFORMATION ONLY
ARCO NTI
2900 am/pm w/ 17'x85' CAR WASH FUEL CANOPY w/ 8 MPD's AND 1,900 SF Q.S.R.
GREEN VALLEY ROAD
FACILITY # TBD
PROJECT NO. 15593
TRASH ENCLOSURE
TE.1
Preliminary Not For Construction



PRODUCT SIGN

17.7 SF AM/PM
12.3 SF SCHLOTZSKY'S

76.6 SF – TOTAL SIGNAGE / EA FACE

A SITE IDENTIFICATION SIGN

SCALE: 1/4" = 1'-0"

FS-2

STONE: Eldorado Stone
Shadow Rock
COLOR: "Chesapeake"

FS-3

STANDING SEAM METAL ROOF
TAYLOR MFG PROD. - "VERSA-SPAN"
COLOR: PINE GREEN

C-01
C-06
C-08
C-10
FL-1

C-01 BP PEARL
ICI #A0083 "INDIAN LEGEND"

C-02 BP DARK PEARL
ICI #A0762 "DESERT VALLEY"

C-03 ampm ORANGE
PMS 021C

C-04 ampm TAN
ICI #A0717 "INDIAN CORN"

C-05 ampm DARK TAN
ICI #A1761 "ONIONSKIN TAN"

C-06 ampm YELLOW
PMS 116C

C-07 BP WARM GREY
ICI #A1860 "GREY MOUNTAIN"

C-08 ampm RED
PMS 032C

C-09 ampm PURPLE
PANTONE PURPLE

C-10 ampm BLUE
PMS 072C

C-11 BP HIGH HIDING WHITE
ICI BP HIGH HIDING WHITE

C-12 ARCO BLUE
PMS 288

C-13 ARCO LIGHT BLUE
PMS 2935

C-14 OMEGA YELLOW
ICI #A0775

C-15 SCHLOTZSKY'S
SHERWIN WILLIAMS #SW6107
"NOMADIC DESERT"

C-16 WOOD STAIN
CABOT SEMI-TRANSPARENT
"MISSION BROWN"

C-17 SCHLOTZSKY'S
SHERWIN WILLIAMS #SW6109
"HOPSACK"

WEST BUILDING ELEVATION

NORTH BUILDING ELEVATION

bp

ARCO

BP WEST COAST PRODUCTS, LLC

GREEN VALLEY ROAD
@ SOPHIA PARKWAY
EL DORADO HILLS, CA

FACILITY # TBD

ARCO NTI
2900 am/pm
w/ 17'x65' CAR WASH
FUEL CANOPY w/ 8 MPD's
AND 1,900 SF Q.S.R.

BARGHAUSEN
CONSULTING ENGINEERS, INC.

18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-6782 FAX

CIVIL ENGINEERING, LAND PLANNING,
SURVEYING, ENVIRONMENTAL SERVICES

Revised Exhibit Q

REVISED MITIGATED NEGATIVE DECLARATION

FILE: Planned Development PD12-0003

PROJECT NAME: Green Valley Convenience Center

NAME OF APPLICANTS: Strauch Companies

ASSESSOR'S PARCEL NO.: 124-301-46 **SECTION:** 21 & 28 **T:** 10N **R:** 8E

LOCATION: Southeast corner of the intersection of Green Valley Road and Sophia Parkway in the north El Dorado Hills area, in El Dorado County.

☐ **GENERAL PLAN AMENDMENT:** **FROM:** **TO:**

☐ **REZONING:** **FROM:** **TO:**

☐ **TENTATIVE PARCEL MAP**

☐ **SUBDIVISION**

SUBDIVISION (NAME):

☐ **SPECIAL USE PERMIT TO ALLOW:**

☒ **OTHER:** 1. Development Plan to allow the construction of a gasoline service station, convenience store, drive-through fast-food restaurant, single-bay self-service carwash;

2. Finding of Consistency with General Plan Policy 7.3.3.4 to allow a reduction of the wetland setback from 50 feet to ten with construction and structures within the required setback;
3. Design Waiver requesting a modification of Standard Plan 103-D to allow a longer taper to the encroachment for the driveway on Green Valley Road.

REASONS THE PROJECT WILL NOT HAVE A SIGNIFICANT ENVIRONMENTAL IMPACT:

☐ **NO SIGNIFICANT ENVIRONMENTAL CONCERNS WERE IDENTIFIED DURING THE INITIAL STUDY.**

☒ **MITIGATION HAS BEEN IDENTIFIED WHICH WOULD REDUCE POTENTIALLY SIGNIFICANT IMPACTS.**

☐ **OTHER:**

In accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), State Guidelines, and El Dorado County Guidelines for the Implementation of CEQA, the County Environmental Agent analyzed the project and determined that the project will not have a significant impact on the environment. Based on this finding, the Planning Department hereby prepares this MITIGATED NEGATIVE DECLARATION. A period of thirty (30) days from the date of filing this mitigated negative declaration will be provided to enable public review of the project specifications and this document prior to action on the project by COUNTY OF EL DORADO. A copy of the project specifications is on file at the County of El Dorado Planning Services, 2850 Fairlane Court, Placerville, CA 95667.

This Mitigated Negative Declaration was adopted by the Planning Commission on _____.

Attachment 4

_____

Executive Secretary

EL DORADO COUNTY PLANNING SERVICES
2850 FAIRLANE COURT
PLACERVILLE, CA 95667

REVISED INITIAL STUDY
ENVIRONMENTAL CHECKLIST

Project Title: PD12-0003/Green Valley Convenience Center

Lead Agency Name and Address: El Dorado County, 2850 Fairlane Court, Placerville, CA 95667

Contact Person: Tom Dougherty | **Phone Number:** (530) 621-5355

Applicant's Name and Address: Strauch Companies, 301 Natoma St., Suite 202, Folsom, CA 95630

Property Owner: Cemo Family Properties, 950 Glenn Drive, Suite 250, Folsom, CA 95630

Agent: Barghhausen Consulting Engineers, 18215 72nd Ave. South, Kent, Washington 98032

Project Location: Southeast corner of the intersection of Green Valley Road and Sophia Parkway in the north El Dorado Hills area, in El Dorado County.

Assessor's Parcel Number: 124-301-46 **Acres:** 2.12

Zoning: Commercial-Planned Development (C-PD)

Sections: 21 & 28 **T:** 10N **R:** 8E

General Plan Designation: Commercial (C)

Description of Project:

1. Development Plan to allow construction of the following:
   a. 4,602 square foot open-sided canopy w/8 self-service fuel pumps;
   b. 2,773 square foot convenience store;
   c. 2,183 square foot fast food restaurant with a drive-through;
   d. 1,196 square foot single-bay self-service carwash;
   e. 171 square foot trash enclosure;
   f. 20'8.75" tall, 79.9 square-foot monument site identification sign;
   g. 12-foot tall retaining wall; ~~and~~
2. Finding of Consistency with General Plan Policy 7.3.3.4 to allow a reduction of the wetland setback from 50 feet to ten feet with construction and structures within the required setback~~.~~; and
3. Design Waiver request from Standard Plan 103-D to allow a longer taper for the encroachment.

Surrounding Land Uses and Setting:

	Zoning	General Plan	Land Use/Improvements
Site	C-PD	C	Vacant
North	RF	OS	Green Valley Road and Folsom Lake State Recreation Area
South	C-PD	C	Sophia Parkway and vacant commercial parcel
East	C and R2A	C and MDR	Commercial/RV, truck, and boat storage
West	C-PD	C	Sophia Parkway and vacant commercial parcel

Briefly describe the environmental setting: The 2.12-acre parcel is located between 400 and 420 feet elevation above sea level. The area of the proposed construction is currently a vacant lot with frontage on Green Valley Road to the north and Sophia Parkway to the west. The site is approximately 10 feet below the adjacent roadway grades of Sophia Parkway and Green Valley Road. The parcel contains old piles of soil spoils, with gravel and cobble evident at the surface, and covered primarily with non-native grasses and herbaceous plants typical of frequently disturbed (ruderal) sites. There are a few young cottonwood and willow trees which have established themselves among the spoils piles and along the stream, along with blackberry bushes. The site is triangular in shape with an approximate width of 200 feet and length of 600 feet. A 15-foot-wide utility easement runs along the east boundary. The site drains to the intermittent stream that bisects the parcel and flows in an east to west direction. The stream continues westward under Sophia Parkway through a culvert system consisting of three 48-inch-diameter reinforced concrete pipes and headwall and empties into the Mormon Island Wetland Preserve, which is located on the west side of Shadowfax Lane. The Mormon Island Dam, one of the dams containing Folsom Lake, is located approximately 1,400 feet to the northwest across Green Valley Road.

The site contains an existing asphalt drive apron and unsurfaced road at the northeast corner of the site. The project proposes to develop approximately 1.3 acres of the site and will leave the 0.8-acre balance undisturbed. The developed site will add approximately 0.95 acre of impervious surfaces and add approximately 0.39 acre of landscaping.

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement)

1. Department of Transportation
2. Environmental Health Division
3. Solid Waste & Hazardous Materials Division
3. Air Quality Management District
4. Building Services
5. El Dorado Hills Fire Department
6. El Dorado County Resource Conservation District
7. El Dorado Irrigation District
~~8. U.S. Army Corps of Engineers~~
~~9.~~ 8. California Department of Fish and Wildlife
~~10.~~ 9. Central Valley Regional Water Quality Control Board

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Agriculture and Forestry Resources	X	Air Quality
X	Biological Resources		Cultural Resources		Geology / Soils
	Greenhouse Gas Emissions		Hazards & Hazardous Materials	X	Hydrology / Water Quality
	Land Use / Planning		Mineral Resources	X	Noise
	Population / Housing		Public Services		Recreation
	Transportation/Traffic		Utilities / Service Systems	X	Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐ I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and 2) has been addressed by Mitigation Measures based on the earlier analysis as described in attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION, pursuant to applicable standards; and b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or Mitigation Measures that are imposed upon the proposed project, nothing further is required.

Signature: _____ Date: 8-6-13

Printed Name: Tom Dougherty, Project Planner For: El Dorado County

Signature: _____ Date: 6 Aug. 2013

Printed Name: Peter N. Maurer, Principal Planner For: El Dorado County

PROJECT DESCRIPTION

Introduction

This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts resulting from the proposed park project.

Project Description

Development Plan to allow the construction of a gas station, convenience store, drive-through fast-food restaurant, and an automatic carwash.

Project Location and Surrounding Land Uses

The 2.12-acre site is located on the southeast corner of the intersection of Sophia Lane and Green Valley Road in the El Dorado Hills area. The surrounding land uses include the Folsom Lake State Recreation Area to the north, a vacant commercial parcel to the south and west, a commercial RV, boat, and truck storage, and a residential parcel adjoining the east boundary.

Project Characteristics

1. Transportation/Circulation/Parking

   The El Dorado County Department of Transportation (DOT) has analyzed the submitted traffic study and supplemental study, and has included conditions of approval for improvements and funding requirements that would reduce impacts to a less than significant level. Frontage, turn lane, and encroachment improvements would be required.

2. Utilities and Infrastructure

   There are existing electrical facilities which would be extended within the parcel to the project. Domestic water and sewer service is available near the site and would be upgraded and extended as required by the El Dorado Irrigation District (EID).

3. Construction Considerations

   Construction of the project would consist of building and infrastructure construction, installation of erosion control measures, and riparian area restoration.

4. CEQA Section 15152. Tiering- El Dorado County 2004 General Plan EIR

   This Mitigated Negative Declaration tiers off of the El Dorado County 2004 General Plan EIR (State Clearing House Number 2001082030 in accordance with Section 15152 of the CEQA Guidelines. The El Dorado County 2004 General Plan EIR is available for review at the County web site at http://www.co.el-dorado.ca.us/Planning/GeneralPlanEIR.htm or at the El Dorado County Development Services Department located at 2850 Fairlane Court, Placerville, CA 95667. All determinations and impacts identified that rely upon the General Plan EIR analysis and all General Plan Mitigation Measures are identified herein. The following impact areas are tiering off the General Plan EIR:

   Aesthetics and Air Quality.

Project Schedule and Approvals

This Initial Study is being circulated for public and agency review for a 30-day period. Written comments on the Initial Study should be submitted to the project planner indicated in the Summary section, above.

Following the close of the written comment period, the Initial Study will be considered by the Lead Agency in a public meeting and will be certified if it is determined to be in compliance with CEQA. The Lead Agency will also determine whether to approve the project.

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is a fair argument that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of Mitigation Measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the Mitigation Measures, and briefly explain how they reduce the effect to a less than significant level.

5. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

   Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a. Earlier Analysis Used. Identify and state where they are available for review.

   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c. Mitigation Measures. For effects that are "Less Than Significant With Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

   a. the significance criteria or threshold, if any, used to evaluate each question; and
   b. the mitigation measure identified, if any, to reduce the impact to less than significant.

ENVIRONMENTAL IMPACTS

I. AESTHETICS. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?				X
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c. Substantially degrade the existing visual character quality of the site and its surroundings?			X	
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

Discussion: A substantial adverse effect to Visual Resources would result in the introduction of physical features that are not characteristic of the surrounding development, substantially change the natural landscape, or obstruct an identified public scenic vista.

a. **Scenic Vista:** The project site and vicinity is not identified by the County as a scenic view or resource (El Dorado County Planning Services, El Dorado County General Plan Draft EIR (SCH #2001082030), May 2003, Exhibit 5.3-1 and Table 5.3-1). There would be no impacts.

b. **Scenic Resources:** The project site is not located near any roadway that is classified as a State Scenic Highway (California Department of Transportation, California Scenic Highway Program, Officially Designated State Scenic Highways, (http://www.dot.ca.gov/hq/LandArch/scenic_highways/scenic_hwy.htm)). There were no trees or historic buildings found that have been identified by submitted biological report or cultural resources study as contributing to exceptional aesthetic value at the project site. There would be no impacts.

c. **Visual Character:** The DEIR for the General Plan had identified and examined the potential impacts that implementation of the General Plan would have to the visual character of the areas of the County. Section 5.3-2 states that the County mitigate the potential significant impacts by designing new streets and roads within new developments to minimize visual impacts, preserve rural character, and ensure neighborhood quality to the maximum extent possible consistent with the needs of emergency access, on-street parking, and vehicular and pedestrian safety. The proposed project is designed and conditioned to provide the General Plan designated C land with a secondary access for emergency ingress/egress safety, on and off-site roads to facilitate on-site parking, bike racks, and sidewalks to provide pedestrian safety.

The proposed project would not be anticipated to significantly degrade the visual character or quality of the site and its surroundings in ways not anticipated for lands designated by the General Plan for commercial land uses. The proposed retaining wall would separate the wetland preserve from the development, and would be buffered from views from the south by the proposed and existing riparian vegetation and landscaping. The project would continue to provide the visual character of the riparian area that currently exists by keeping ten feet north of the streambed high water mark areas and those southward essentially intact post construction. The ~~majority of the~~ trees proposed to be removed are not oak trees and are located outside of the 50-foot setback and therefore could be removed regardless of the request to reduce the setback required of Policy 7.3.3.4. The landscape plan includes evergreen species (deodar cedar, holly oak, ponderosa pine) on the south and east side to block views into the project from the east and south sides (Landscape Planting Plan, Sheet L1 of 5, Attachment 4).

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

The project design, proposed constructions materials, and colors of the physical elements, were analyzed for consistency with the Community Design Guide and surrounding commercial businesses. With the exception of the height of the proposed monument sign, and signs facing south and east, the project was found to be substantially consistent with the design of other commercial projects that have been approved along Green Valley Road between Salmon Falls Road and the Sacramento County Border. Planning has included recommended conditions of approval to reduce the height of the monument sign to 16 feet, consistent with the free standing pole sign for the gas station across the street, (that sign is 15 ft, 6 inches tall and was originally approved by DR98-0017-S in 2004). Additionally, Planning has determined that the signs proposed for the south and east-facing building walls could be considered unnecessary and excessive considering they are facing residential and commercial areas where there would be no traffic viewing the site and has recommended that no signs be allowed on those sides. Additionally, the rooftop mechanical equipment would be shielded from views by parapet walls.

Mitigation in the form of General Plan polices have been developed to mitigate impacts to less than significant levels for impacts associated with aesthetic resources. Cumulative impacts were previously considered and analyzed. With full review with consistency with General Plan Policies as well as the consistency rezone resultant of the subject applications, impacts would be less than significant. As designed and conditioned, impacts would be less than significant.

d. **Light and Glare:** Section 5.3-3 of the DEIR for the General Plan states the potential significant impacts would be mitigated by including design features, namely directional shielding for street lighting, parking lot lighting, and other significant lighting sources, that could reduce the effects from nighttime lighting. If approved as proposed, the project would allow new lighting. These impacts would not be expected to be any more than any typical and similar publicly-utilized facility lighting within a land use area designated by the General Plan for commercial uses. Use of pole lighting, security lighting and spot lighting for buildings would be required to meet the County lighting ordinance and must be shielded to avoid potential glare affecting day or nighttime views for those that live or travel through the area.

The Site Lighting Photometric (Sheet ES1.2, Attachment 5), shows the project would include shielded wall lights, recessed canopy lights, and the pole lights would be 12-feet tall with a three-foot concrete base with full cutoff fixtures. The photometric analysis demonstrates that the project would not create significant amounts of light outside of the parcel boundaries.

Mitigation in the form of General Plan polices have been developed to mitigate impacts to less than significant levels for impacts associated with lighting resources. Cumulative impacts were previously considered and analyzed. With full review with consistency with General Plan Policies as well as the consistency rezone resultant of the subject applications, impacts would be less than significant. As designed and conditioned, impacts from outdoor lighting would be anticipated to be less than significant with this project.

FINDING: For the "Aesthetics" category, the thresholds of significance have not been exceeded. As conditioned and with adherence to County Code, no significant environmental impacts not anticipated by the General Plan for commercial uses to aesthetics would be anticipated to result from the project..

II. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by California Department of forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forrest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Locally Important Farmland (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				X
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

Discussion: A substantial adverse effect to Agricultural Resources would occur if:

- There is a conversion of choice agricultural land to nonagricultural use, or impairment of the agricultural productivity of agricultural land;
- The amount of agricultural land in the County is substantially reduced; or
- Agricultural uses are subjected to impacts from adjacent incompatible land uses.

a. **Farmland Mapping and Monitoring Program:** Review of the Important Farmland GIS map layer for El Dorado County developed under the Farmland Mapping and Monitoring Program indicates that the project site contains AwD, (Auburn silt loam with 2 to 30 percent slopes). AwD soils are not classified as unique and soils of local importance or as statewide important farmland or prime farmland. The project site is designated for commercial uses, and is not located within or adjacent to lands designated with the Agricultural Districts (A) General Plan Land Use Overlay. As such, there would be no impacts.

b. **Williamson Act Contract:** The property is not located within a Williamson Act Contract and the project would not conflict with existing zoning for agricultural use, and would not affect any properties under a Williamson Act Contract. There would be no impact.

c. **Conflicts with Zoning for Forest/timber Lands:** No conversion of timber or forest lands would occur as a result of the project. There would be no impact.

d. **Loss of Forest land or Conversion of Forest land:** Neither the General Plan nor the Zoning Ordinance designate the site as an important Timberland Preserve Zone and the underlying soil types are not those known to support timber production. There would be no impact.

e. **Conversion of Prime Farmland or Forest Land:** The project would not result in conversion of existing lands designated by the General Plan and zoned for agricultural uses. The project site is designated for commercial uses by the General Plan and is zoned for a commercial development. There would be no impact.

FINDING: This project would have no significant impact on agricultural lands, would not convert agricultural lands to non-agricultural uses, and would not affect properties subject to a Williamson Act Contract. For the "Agriculture" category, the thresholds of significance have not been exceeded. For this "Agriculture" category, there would be no impacts.

III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?			X	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d. Expose sensitive receptors to substantial pollutant concentrations?				X
e. Create objectionable odors affecting a substantial number of people?			X	

Discussion: A substantial adverse effect on Air Quality would occur if:

- Emissions of ROG and No_x, will result in construction or operation emissions greater than 82lbs/day (See Table 5.2, of the El Dorado County Air Pollution Control District – CEQA Guide);

- Emissions of PM_{10}, CO, SO_2 and No_x, as a result of construction or operation emissions, will result in ambient pollutant concentrations in excess of the applicable National or State Ambient Air Quality Standard (AAQS). Special standards for ozone, CO, and visibility apply in the Lake Tahoe Air Basin portion of the County; or

- Emissions of toxic air contaminants cause cancer risk greater than 1 in 1 million (10 in 1 million if best available control technology for toxics is used) or a non-cancer Hazard Index greater than 1. In addition, the project must demonstrate compliance with all applicable District, State and U.S. EPA regulations governing toxic and hazardous emissions.

a. **Air Quality Plan:** El Dorado County Air Quality Management District (AQMD) has adopted the *Rules and Regulations of the El Dorado County Air Pollution Control District,* (February 15, 2000), establishing rules and standards for the reduction of stationary source air pollutants (ROG/VOC, NOx, and O3). Figure 1.1 in the Guide to Air Quality Assessment: Determining Significance of Air Quality Impacts under the California Environmental Quality Act (February 2002), identifies facilities that require permits from the AQMD. The project would require an AQMD permit for gasoline storage and dispensing equipment. The following AQMD Rules apply during the construction of the project:

1. Rule 215 Architectural Coatings, Rule 223 Fugitive Dust – General;
2 Rule 223-1 Fugitive Dust – Construction;
3. Rule 224 – Cutback and Emulsified Asphalt.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

Rule 215 defines the quantities of reactive organic compounds permitted for use in new construction. Rule 223 limits manmade fugitive dust to the property line of the construction site. Rule 223-1 requires a Fugitive Dust Control Plan be prepared and submitted to the AQMD prior to ground disturbing activities. Rule 224 defines the types of cutback and emulsified asphalts permitted for use in El Dorado County. Pursuant to Rule 610, the AQMD would charge a fee to review the Fugitive Dust Control Plan required by Rule 223- 1. After construction, the project shall comply with AQMD Rule 238 "Gasoline Transfer and Dispensing. The AQMD has included recommended conditions of approval that require compliance with these rules, however, to ensure that all bid specifications and construction contracts include noticing of these requirements so contractors are aware of them early on, the following mitigation measure is recommended:

> **Air Quality-1:** To ensure compliance with applicable El Dorado County AQMD rules, the bid specifications and construction contract shall stipulate the following:
>
> The Contractor shall adhere to all applicable El Dorado County AQMD rules, including but not necessarily limited to Rules 215, 223, 223-1, and 224. Copies of these rules are available from the El Dorado County AQMD website (www.arb.ca.gov/drdb/ed/cur.htm). The Contractor shall prepare a Fugitive Dust Control Plan for review and approval by the El Dorado County Air Pollution Control Officer pursuant to Rule 223-1 – Fugitive Dust Construction. After construction, the Project shall comply with AQMD Rule 238 "Gasoline Transfer and Dispensing."
>
> **Monitoring Responsibility**: Planning Services.
>
> **Monitoring Requirement**: The applicant shall provide proof to Planning Services that this mitigation measure was included on the specifications and construction contract for the contractor, and is included on all grading and building permits, prior to issuance of any grading and/or building permit.

Compliance with U.S. EPA Conformity Regulations: Because the Project would not involve obtaining a federal permit or federal funding, it would not be necessary to demonstrate conformity with the State Implementation Plan for achieving and maintaining federal ambient air control standards.

As conditioned and mitigated for compliance with AQMD rules, impacts would be less than significant.

b. **Air Quality Standards:** An Air Quality Analysis for the ARCO Green Valley Road at Sophia Pkwy Project, December 4, 2012, was submitted for the project. The El Dorado County Guide to Air Quality Assessment (CEQA Guide; El Dorado County 2002) was used to evaluate the proposed commercial development. Other resources used in the analysis include El Dorado County Air Quality Management District (AQMD) rules for fugitive dust (Rules 223, 223-1, and 223-2); El Dorado County ordinances for projects in areas that may have Naturally Occurring asbestos (NOA); California Department of Mines and Geology NOA data, and U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) toxic air contaminants data.

The project would potentially create air quality impacts which may contribute to an existing or projected air quality violation during grading and construction. The project's construction activities would include site preparation, earthmoving and general construction involving general land clearing and grubbing. Earthmoving activities would include cut and fill operations, trenching, soil compaction, and grading. General construction includes adding improvements such as roadway surfaces, structures and facilities.

The emissions generated from these construction activities include:

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

1. Combustion emissions (ROG, NOx, CO, SOx, PM10) from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips;
2. Combustion emissions from heavy-duty diesel-fueled equipment contain Diesel PM, 2which has been identified as a potential health risk;
3. Fugitive dust (PM10) from soil disturbance or demolition; and
4. Evaporative emissions (ROG) from asphalt paving and architectural coating applications.

Demolition and earth disturbance may also result in airborne entrainment of asbestos, a toxic air contaminant, with regard to soil disturbance in areas where there are naturally occurring surface deposits of ultramafic rock. Potential impacts resulting from soil disturbance of NOA are discussed further below.

The AQMD evaluates the significance of ROG and NOx emissions during construction based on the maximum amount of fuel, diesel and regular gasoline that would be used on the peak equipment use day. Table 4.1 in the CEQA Guide lists the range of maximum daily fuel usage for the sum of all equipment, off-road vehicles, and auxiliary handheld equipment that can be used to ensure less than significant impacts resulting from ROG and NOx emissions.

The Air Quality Analysis found that if all of the equipment used (vehicles and hand held) is 1995 model year or earlier the maximum daily fuel usage for a less than significant impact is 337 gallons per day (diesel and gasoline). The maximum daily fuel usage for all equipment 1996 model year or later (vehicles and handheld) for a less than significant impact is 402 gallons per day (diesel and gasoline). A linear interpolation is used between 337 and 402 gallons per day, in proportion to the distribution of equipment into the two age categories, to determine that maximum daily fuel use for the specific fleet mix; for example, a 50/50 age distribution yields allowable fuel use of (337+ ((402-337)/2) or 370 gallons per day.

Therefore, to ensure that development would result in less than significant air quality impacts during construction, the following mitigation measure is recommended:

Air Quality-2: The bid specifications and construction contract shall stipulate the following: On any given day during construction, the contractor shall ensure that all equipment used during that day (off-road vehicles and auxiliary handheld equipment) does not exceed the fuel usage limit (diesel and regular gasoline) established in the CEQA Guide. The maximum amount of fuel that can be used is based on the year that the equipment was built. The maximum amount of fuel that can be used in one day if all equipment used is 1995 model year or older is 337 gallons. The maximum amount of fuel that can be used in one day if all equipment used is 1996 model year or newer is 402 gallons. If a combination of 1995 and older and 1996 and newer equipment is used, then divide the number of 1996 and newer equipment by the total number of equipment used. Multiply that number by 65. Add that number to 337. The sum is the maximum number of gallons of fuel permitted for use on that day.

The equation to determine the maximum daily fuel usage is expressed:

Daily maximum fuel usage (diesel and regular gasoline) = X (65) + 337, where X equals the number of 1996 and later equipment divided by the total number of equipment used (off-road vehicles and auxiliary handheld equipment). For example, if 10 pieces of equipment are used and 3 are 1995 and older and 7 are 1996 and newer, then the ratio of newer equipment to all equipment used is 0.7 (7/10 = 0.7). The project is allowed to use a maximum total of 383 gallons of fuel on that day (0.7(65) + 337 = 383). If all the equipment is 1996 or newer, then 402 gallons is the maximum number of gallons allowed.

Monitoring Responsibility: Planning Services.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

Monitoring Requirement: The applicant shall provide proof to Planning Services that this mitigation measure was included on the specifications and construction contract for the contractor, prior to issuance of any grading and/or building permit, and is included on all grading and building permits, prior to issuance of any grading and/or building permit.

With implementation of this stipulation, ROG and NOx emissions during construction on the project would be less than significant. The El Dorado County AQMD determined that if ROG and NOx emissions are less than significant then exhaust emissions of CO are also deemed less than significant. With adherence to Rule 231 and implementation of the Fugitive Dust Control Plan required by Rule 231-1, PM10 emissions would have a less than significant impact on air quality during construction.

Diesel Particulate Matter (PM) has been identified as a potential health risk. Limiting the amount of diesel fuel used during the course of a project reduces the potential health risks to a less than significant level. Table 4.2 in the CEQA Guide provides the maximum amount of fuel that is permitted to ensure less than significant health risks. As with the daily fuel limit described above, the maximum amount of diesel fuel allowed over the course of project construction is determined based on the year that the equipment was built. For equipment that is 1996 model year or newer, the maximum amount of diesel fuel allowed is 37,000 gallons. For equipment that is 1995 model year or older the maximum amount of diesel fuel allowed is 3,700. Therefore, to ensure that the potential health risk posed by Diesel PM is reduced to less than significant, the following mitigation measure is recommended:

Air Quality-3: The bid specifications and construction contract shall stipulate the following: For the duration of construction, the contractor shall ensure that all diesel-powered equipment used does not exceed the diesel fuel usage limit established in the CEQA Guide. The maximum amount of diesel fuel that can be used is based on the year that the equipment was built. The maximum amount of diesel fuel that can be used during the project if all equipment used is 1995 model year or older is 3,700 gallons. The maximum amount of diesel fuel that can be used during the project if all equipment used is 1996 model year or newer is 37,000 gallons. If a combination of 1995 and older and 1996 and newer equipment is used, then divide the number of 1996 and newer equipment in the fleet by the total number of equipment in the fleet. Multiply that number by 33,300. Add that number to 3,700. The sum is the maximum number of gallons of diesel fuel use permitted.

The equation to determine the maximum project diesel fuel usage is expressed:

Maximum project diesel fuel usage = X (33,300) + 3,700, where X equals the number of 1996 and later equipment divided by the total number of equipment in the fleet. For example, if 10 pieces of equipment are used and 3 are 1995 and older and 7 are 1996 and newer, then the ratio of newer equipment to all equipment used is 0.7 (7/10 = 0.7). The project is allowed to use a maximum total of 27,010 gallons of fuel for the life of construction (0.7(33,300) + 3,700 = 27,010 gallons). If all the equipment is 1996 or newer, then 37,000 gallons is the maximum number of gallons of diesel fuel use allowed for the project.

Monitoring Responsibility: Planning Services.

Monitoring Requirement: The applicant shall provide proof to Planning Services that this mitigation measure was included on the specifications and construction contract for the contractor, prior to issuance of any grading and/or building permit, and is included on all grading and building permits, prior to issuance of any grading and/or building permit.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

The AQMD has determined that mass emissions of PM10 do not need to be quantified and may be deemed less than significant (CEQA Guide page 4-3). Adherence to Rules 223 and 223-1 ensure that PM10 impacts would be less than significant.

ROG and NOx Emissions and Mitigation for Project Operation: The significance threshold for ROG and NOx is 82 pounds per day for each ROG and NOx. Table 5.2 of the CEQA Guide lists the type and size of projects that are likely to result in significant ROG and NOx emissions. The AQMD recommends that projects within 10 percent of the values shown on Table 5.2 conduct a more in-depth analysis including computer modeling with URBEMIS7G. The threshold for a fast food restaurant (with drive-thru) is 8,000 ft^2. The threshold for a convenience market (24 hour) with gasoline pumps is 7,600 ft^2. The proposed square footage for the fast food restaurant (with a drive-thru) component of the Project is 1,972 ft^2 and for the convenience market component of the Project is 2,850 ft^2. The Project is more than 10 percent below each threshold separately, and more than 10 percent below the lowest threshold when both components are combined. Therefore, operation of the Project does not need further analysis and would have less than significant impacts resulting from ROG and NOx emissions.

CO, PM10, and Other Pollutant Air Quality Impacts: ROG and NOx emissions from project operations are evaluated for significance under CEQA on a daily mass emission basis. CO, PM10, and other pollutants are evaluated for significance by comparison against the applicable national and state ambient air quality standards (AAQS). The El Dorado County AQMD considers emissions of CO, PM10, and other pollutants from project operation, which are subject to the AAQS significance criteria, significant if:

1. The project's contribution by itself would cause a violation of the AAQS; or
2. The project's contribution plus the background level would result in a violation of the AAQS, and either
   a. A sensitive receptor is located within a quarter-mile of the project, or
   b. The project's contribution exceeds five percent of the AAQS.

The AQMD considers development projects of the type and size that fall below the significance cut-points in Table 5.2 for ROG and NOx also to be insignificant for CO and NO2 emissions (CEQA Guide 6-2). Therefore, the project would have less than significant impacts from CO and NO2 emissions.

The El Dorado County AQMD considers PM10 and SO2 emissions from development projects not significant if they are of the type and size below the cut-points in Table 5.2 (CEQA Guide page 6-2). Therefore, the project would have less than significant impacts resulting from PM10 and SO2 emissions.

The AQMD considers lead, sulfates, and H2S less than significant except for industrial sources such as foundries, acid plants, and paper mills (CEQA Guide page 6-2). Therefore, no project impact would occur resulting from lead, sulfates, and H_2S.

The El Dorado County AQMD assumes that visibility impacts from development projects in the Mountain Counties Air Basin portion of the county are not significant (CEQA Guide page 6-3). Visibility impacts are controlled through state and national regulatory programs governing vehicle emissions, and through mitigation required for ozone precursors and particulate matter for other development projects throughout the county. Therefore, the project would not result in any significant visibility impacts.

Evaluation of Toxic Air Contaminants: Toxic air contaminants (TAC) are pollutants that pose a present or potential hazard to human health. TACs are classified as either carcinogenic or noncarcinogenic. The state and federal governments regulate TACs through statutes and regulations that require maximum or best available technologies be incorporated in the source of the pollutants in order to limit emissions. For example, dry cleaning

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

businesses are regulated in their handling and use of perchloroethylene. The California Air Resources Board (CARB) identified asbestos, including naturally occurring asbestiforms (NOA), as a carcinogenic TAC in 1986.

The site contains Auburn silt loam soils which are underlain by metamorphic rocks. The site is mapped as "Areas That Probably Do Not Contain Asbestos" by Churchill et al. (2000). The site is not in or within 0.25 mile of a "Found area of NOA" or an area "More Likely to Contain Asbestos" (El Dorado County 2005). Therefore, an Asbestos Hazard Dust Mitigation Plan is not required. If unexpected NOA is discovered on-site during the course of construction, the El Dorado County AQMD must be notified and an Asbestos Hazard Dust Mitigation Plan must be prepared and implemented. Construction of the project will have no air quality impacts resulting from NOA.

Table 7.1 of the CEQA Guide (El Dorado County 2002) lists TACs associated with common land use activities. TACs associated with gasoline filling stations include benzene, methyl-tertiary butyl ether, toluene, and xylene. Benzene is the primary TAC associated with gas stations. Gasoline vapors are released during the filling of both the stationary underground storage tanks and the transfer from those underground tanks to individual vehicles. The project would require an AQMD permit for gasoline storage and dispensing equipment. The permit would require that the project comply with AQMD District Rule 238 which requires all new facilities to install and maintain CARB Certified Vapor Recovery Systems.

As a potential source of TACs, a gasoline filling station is subject to the AQMD's toxic risk screening and risk management procedures. According to Section 7.4 of the CEQA Guide (El Dorado County 2002) the AQMD would require a risk assessment if TACs are or will be emitted within 0.25 mile of a school or proposed school site. No schools occur within 0.25 mi of the Project site. The closest schools to the Project site are the Lil' Scholars University Preschool" (0.83 mile east) and the Lakeview Elementary School (0.50 mile east).

Based on its experience, the AQMD has identified screening levels in Section 7.5.3 of the CEQA Guide (El Dorado County 2002) that provide conservative indicators that a project would not result in significant emissions of TACs. These screening levels are:

1. "Development projects with Diesel truck traffic less than 10 trucks/day.
2. Industrial projects that result in emissions of organic gases, particulates, NOx, or oxides of sulfur (SOx) below the applicability levels specified under the Toxic Hot Spots Act (AB 2588; see Health & Safety Code sec. 44322 and the applicable CARB regulations implementing that act [see 17 CCR sec. 93300.5 and guidelines incorporated therein]).
3. Construction emissions of ROG and NOx that meet the screening criteria in Section 4.2."

The project is expected to generate an average of 16 diesel truck deliveries per week, or less than three trucks per day. This is lower that the screening threshold. The project is a commercial development, consisting of a gasoline fueling station, convenience with a foot fast food restaurant, and a one-bay carwash. The project is not an 'Industrial Project'. Implementation of Mitigation Measures Air Quality-2 and 3 would ensure that construction emissions of ROG and NOx meet the screening criteria in Section 4.2 of the CEQA Guide (El Dorado County 2002). The proposed Project would not result in significant emissions of TACs.

c. **Cumulative Impacts:** The Air Quality Analysis analyzed project operation and area emissions. The AQMD's primary criterion for determining whether a project has significant cumulative impacts is whether the project is consistent with an approved plan or mitigation program of District-wide or regional application in place for the pollutants emitted by the project (CEQA Guide page 8-1). The County General Plan land use designation for the parcel is commercial and the parcel is zoned commercial. The proposed project is consistent with the County's General Plan designation and zoning. No General Plan or zone change is needed.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

The Sacramento Regional Ozone Air Quality Attainment Plan (AQAP) was developed for application in the Sacramento Region, including the Mountain Counties Air Basin portion of El Dorado County, to bring the region into ROG and NOx attainment as required by the federal and California Clean Air Acts. The AQAP assumes annual increases in air pollutant emissions resulting from regional growth. The proposed project would contribute to the annual regional increase in ROG and NOx emissions within the parameters of the AQAP assumption. The air Quality Analysis found that the proposed project is consistent with the Sacramento Regional Ozone AQAP for the following reasons (CEQA Guide page 8-2):

a. The proposed project does not require a change in the existing land use designation or rezone and projected emissions of ROG and NOx from the proposed project are equal to or less than the emissions anticipated for the site if developed under the existing land use designation;

b. The proposed project does not exceed the "project alone" significance criteria;

c. The Applicant is including applicable emission reduction measures; and

d. The bid specifications and contract will stipulate that the contractor shall comply with all applicable district rules and regulations during construction of the project.

Therefore, contribution of ROG and NOx to this regional cumulative impact is evaluated as not considerable.

CO is an attainment pollutant in El Dorado County, and local CO concentrations are expected to decline even further in the future as more stringent CO standards for motor vehicles take effect (CEQA Guide page 8-2). The District does not consider CO to be an area-wide or regional pollutant that is likely to have cumulative effects (ibid.). Emissions from the proposed project are less than significant. The AQMD considers contributions of CO from projects with less than significant ROG and NOx emissions to be less than considerable.

The Mountain Counties portion of the county is in nonattainment for the state 24-hour PM10 standard, which dictates the use of a relatively sensitive criterion for identifying cumulative affects on PM10 ambient concentrations. PM10 directly emitted from a project can have area wide impacts and can be cumulatively significant even if not significant on a project-alone basis (CEQA Guide page 8-3). The County is in attainment for the SO2 and NO2 ambient air quality standards, but SO2 and NO2 can also contribute to area-wide PM10 impacts through their transformation into sulfate and nitrate particulate aerosols (CEQA Guide page 8-3). Project contribution of PM10, SO2, and NO2 are not evaluated as considerable for the following reasons (CEQA Guide page 8-3):

1. The Project would not exceed the "project alone" significance criteria for these pollutants;

2. The bid specifications and contract would stipulate that the contractor shall comply with all applicable district rules and regulations during construction of the project; and

3. Emissions from the Project would not be cumulatively significant for ROG, NOx, or CO based on the criteria set forth above.

TACs are typically localized and do not occur region-wide. Therefore, the El Dorado County AQMD considers a project contribution of TAC emissions cumulatively significant if large development projects occur on contiguous parcels and each one is emitting TAC (CEQA Guide 8-4). The project is not considered large, is not contiguous to another large development project, and NOA does not occur on-site. If NOA was discovered on-site, implementation of an El Dorado County Environmental Management- and AMQD-approved Asbestos Hazard

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

Mitigation Plan would ensure that asbestiform dust is entrained on-site. Therefore, the project would not have a cumulatively considerable impact resulting from emissions of TACs.

The AQMD reviewed the submitted Air Quality Analysis and agreed with the recommended mitigation measures. They determined that with the implementation of standard conditions of approval for air quality, in addition to the recommended mitigation measures, the project would be anticipated to have less than significant cumulative impacts.

In addition, the General Plan DEIR Section 5.11 addresses air quality from transportation sources, specifically those generated by vehicles that travel on roadways in the County, partially from US Highway 50 as a generator. Such source emissions have already been considered with the adopted 2004 General Plan and EIR. Mitigation in the form of General Plan polices have been developed to mitigate impacts to less than significant levels for impacts associated with air quality standards. Cumulative impacts were previously considered and analyzed. With full review with consistency with General Plan Policies, impacts would be anticipated to be less than significant.

d. **Sensitive Receptors:** The Air Quality Analysis analyzed the project's potential effects on sensitive receptors. The CEQA Guide identifies sensitive receptors as facilities that house or attract children, the elderly, people with illnesses or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, and convalescent facilities are examples of sensitive receptors (CEQA Guide page 3-2). The following sensitive receptors are located within one mile of the Project site:

Health Facilities: None within 1 mile; Senior Care Facilities: None within 1 mile; Preschools and Daycares: Lil' Scholars University Preschool (0.83 mile east); K-12 Schools: Lakeview Elementary School (0.50 mile east); Playgrounds & Sports Fields: Promontory Community Park (0.65 mile southeast).

The El Dorado County AQMD rules and regulations do not allow dust to leave a project site during construction. The quantitative analysis below evaluates the amount of contaminants that would be generated by the residential subdivision and recommends measures to minimize the estimated amounts. Project compliance with El Dorado County AQMD rules and regulations and with implementation of the recommendations in this report, the Project is not expected to have a significant impact on any sensitive receptors. Impacts would be anticipated to be less than significant.

e. **Objectionable Odors:** Restaurants and gasoline service stations are not classified as an odor generating facility within Table 3.1 of the El Dorado County AQMD CEQA Guide. The proposed project would not be anticipated to create significant levels of odors as measured with current standards. Impacts would be less than significant.

FINDING: The proposed project would not significantly affect the implementation of regional air quality regulations or management plans. The project would result in increased emissions due to grading and operation; however existing regulations would reduce these impacts to a less-than-significant level. The proposed project would not cause substantial adverse effects to air quality, nor exceed established significance thresholds for air quality impacts.

IV. BIOLOGICAL RESOURCES. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			X	

Discussion: A substantial adverse effect on Biological Resources would occur if the implementation of the project would:

- Substantially reduce or diminish habitat for native fish, wildlife or plants;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a native plant or animal community;
- Reduce the number or restrict the range of a rare or endangered plant or animal;
- Substantially affect a rare or endangered species of animal or plant or the habitat of the species; or
- Interfere substantially with the movement of any resident or migratory fish or wildlife species.

a. **Special Status Species:** A Biological Evaluation Letter Report, June 20, 2007 (Attachment 8, and a Biological and Jurisdictional Delineation Report Updates for the Green Valley Convenience Center, May 1, 2013 (Attachment 9), was submitted for the project. No listed species or habitats for listed species were found on the project parcel. The studies found that the project would not have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. The parcel does not fall within designated critical habitat or core areas for the Red-legged and Yellow-legged frog species. The project site is located Rare Plant Mitigation Area 2.

The project could have an impact on nesting raptors or other protected migratory birds by the loss of non-oak canopy. Depending on the timing of construction, site disturbance could result in disturbance of breeding and nesting activity of this species. According to the California Department of Fish and Game Code 3503, "take" of the

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

nest or eggs of any bird is prohibited, except upon approval from the California Department of Fish and Wildlife. Disturbance of active nests can be avoided during construction through appropriate measures. To the extent feasible, ground disturbance and removal of vegetation should be avoided in the vicinity of the ponds during the typical breeding and nesting period for this species (approximately April through July). If construction activities cannot be avoided during the typical breeding season, the applicant would be required to retain a qualified biologist to conduct a pre-construction survey (approximately one week prior to construction) to determine presence/absence of active nests. If no nesting activities are detected within proposed work areas, construction activities may proceed. If, however, active nests are found, construction should be avoided until after the young have fledged from the nest and achieved independence, or upon approval from the California Department of Fish and Wildlife. Impacts would be anticipated to be less than significant with adherence to General Plan Policies, and the following mitigation incorporated into the project description:

BIO-1: Pre-construction Survey Required: If construction begins outside the 1 February to 31 August breeding season, there will be no need to conduct a preconstruction survey for active nests. If construction is scheduled to begin between 1 February and 31 August then a qualified biologist shall conduct a preconstruction survey for active nests at the construction site. In order to avoid take (FGC § 86) of protected birds and raptors (FGC § 3503, 3503.5, 3511, and 3513), a pre-construction bird and raptor nest survey shall be conducted within 10 days prior to the beginning of construction activities by a California Department of Fish and Wildlife (CDFW) approved biologist in order to identify active nests in the project site vicinity. The results of the survey shall be submitted to CDFW. If active raptor nests are found, a quarter-mile (1320 feet) initial temporary nest disturbance buffer shall be established. If active passerine nests are found, a two hundred foot (500 feet for special status species) initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then an on-site biologist/monitor experienced with the species' behavior shall be retained by the project proponent to monitor the nest, and shall along with the project proponent, consult with the CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed to proceed within the temporary nest disturbance buffer if birds/raptors are not exhibiting agitated behavior such as defensive flights at intruders, getting up from a brooding position, or flying off the nest. The designated on-site biologist/monitor shall be on-site daily if necessary while construction related activities are taking place and shall have the authority to stop work if birds/raptors are exhibiting agitated behavior. In consultation with the CDFW and depending on the behavior of the birds/raptors, over time it may be determined that the on-site biologist/monitor may no longer be necessary due to the birds/raptors' acclimation to construction related activities.

Monitoring Responsibility: Planning Services.

Monitoring Requirement: The applicant shall conduct all construction activities outside the nesting season or perform a pre-construction survey and obtain all necessary permits prior to initiation of construction activities. This requirement shall be placed on all grading plans. Planning Services shall review the surveys prior to issuance of a grading permit and/or removal of any trees within the entire project parcel.

b-c. **Riparian Habitat, Wetlands:** There is an unnamed intermittent stream that bisects the parcel and flows east to west and empties into the Mormon Island Wetland Preserve. The area north of the intermittent stream consists of old spoils piles, with gravel and cobble evident at the surface, covered primarily with ruderal vegetation. Several young Fremont cottonwood trees have established among the spoils piles. Up and down-stream from the site, willows, valley oaks, and cottonwoods exist that show that this is a viable biological stream system that drains a large watershed area, albeit portions of have been stripped of natural vegetation mechanically and with weed killers in the past. This watershed system drains into a man-made ditch located on the west side of Shadowfax Lane. The

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

ditch was constructed when soil from the dam construction was deposited and leveled in that area. That ditch travels south approximately 800 feet, turns to the west, and empties over the top of a waterfall into a round-rock pool and stream channel that joins the waters of the Mormon Island Wetland Preserve. The Preserve is significantly lower in elevation because of the soil deposits, creating the waterfall. The Mormon Island Wetland Preserve is a cooperative effort between Ducks Unlimited, Bureau of Reclamation, and California State Parks.

Impact: The project would affect the adjacent riparian habitat outside of the Ordinary High Water Mark. This impact is considered significant.

General Plan Policy 7.3.3.4 requires a minimum non-development setback of 50 feet from intermittent streams. The applicants are requesting a reduction of that setback to ten feet. The General Plan Policy 7.3.3.4 Analysis of Setback to an Unnamed Creek for the Proposed ARCO Green Valley Road at Sophia Pkwy Project, dated December 4, 2012, determined there were no isolated wetlands but that the intermittent stream constituted 0.47 acre of potential jurisdictional wetlands. The analysis is required by the Interim Interpretive Guidelines for General Plan Policy 7.3.3.4 to support their request. The study determined that the project, with or without the proposed alternative setback, would remove riparian vegetation. With a standard 50 foot setback the project would remove 5-6 cottonwood trees. With the proposed alternative setback the project would remove six cottonwood trees and three willow trees. The Policy 7.3.3.4 Analysis concluded that, with the implementation of their mitigation measure, the ten-foot setback would be adequate to protect the intermittent stream and associated riparian habitat and the project would be compliant with the Interim Interpretive Guidelines.

Mitigation **BIO-2** below is recommended to reduce potential impacts to a less-than-significant level from grading, filling, and other activities within the existing intermittent stream and associated habitat:

BIO-2: Intermittent Stream: The applicant is required to submit a re-vegetation plan which shall include the following:

a. Best Management Practices that conform with the County's California Stormwater Pollution Prevention Plan, issued by the State Water Resources Control Board for erosion and sediment control, shall be incorporated into the project development plans and implemented as approved by Building Services during the grading permit process;
b. No equipment shall be allowed within the water channel;
c. Construction fencing shall be installed at the ten-foot setback line defined by the Biological and Jurisdictional Delineation Report Updates for the Green Valley Convenience Center dated May 1, 2013 to prevent and avoid accidental fill and/or equipment entering the setback and creek. The fencing shall be installed prior to initiation of any grading; and
d. The re-vegetation/~~restoration~~ plan for that area shall include planting no fewer than 18 native riparian trees consisting of a combination of willows of the species *Salix lasiolepis*, *S. gooddingii*, or *S. exigua*; Fremont cottonwoods (*Populus fremontii ssp. fremontii*), and valley oaks (*Quercus lobata*) but must include at least six cottonwoods and three willows in the southern portion of the parcel outside of the project footprint. The cottonwoods shall be planted at least 60 feet away from the project footprint and Sophia Parkway. The planting shall occur within one year of the initiation of project construction. The success criterion shall <u>be</u> the survival of the 18 riparian trees ~~two~~ <u>five</u> years after planting.

Monitoring Responsibility: Planning Services and Building Services

Monitoring Requirement: The applicant shall include mitigations a-d above on the grading permit plans. Planning Services shall review the grading permit plans to ensure their inclusion prior to issuance of a

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

grading permit. The Building Services field inspector shall verify compliance with said mitigations upon site inspection for the grading permit. Planning Services shall make a field inspection of the planted area prior to finaling the grading permit.

The Department of the Army, Corps of Engineers (Corps) reviewed the project. Their primary concern is that no direct filling of the stream inside the high water mark occurs and that there is no filling of the channel. The applicant has obtained a Jurisdictional Determination from the Corps that concurred with the amount and location of the 0.47 acre of wetlands and other water bodies. Planning has received confirmation from the U.S. Army Corps of Engineers that they had determined the project avoids the wetlands and a Clean Water Act Section 404 permit would not be required. Subsequently, Planning received information from the Central Valley Regional Water Quality Control Board staff that since the federal permit is not required, that neither is their Clean Water Act Section 401 Water Quality Certification (Attachment 10). The storm water drainage is discussed in more detail below in the Hydrology/Water Quality Section.

The project may also be regulated by potential Streambed Alteration Agreements to be obtained from California Department of Fish and Wildlife, if applicable, pursuant to Sections 1602 of the California Fish and Wildlife Code, as well as a potential California Water Quality Certification, Section 401 permit from the Regional Water Quality Control Board. Both agencies would require review of the development plans prior to issuance of a grading permit.

Implementation of the following mitigation measures, if deemed applicable by the California Department of Fish and Wildlife, and California Central Valley Regional Water Quality Control Board would be anticipated to reduce impacts to the unnamed intermittent stream riparian habitat to a less than significant level:

BIO-3: Streambed Alteration Agreement: A Streambed Alteration Agreement, pursuant to Fish and Wildlife Code 1602, shall be obtained by the applicant from the California Department of Fish and Wildlife, if applicable. ~~, for each stream crossing and any other activities affecting the bed, bank, or associated riparian vegetation of any stream on the site. Authorization prior to placement of any fill is required from the U.S. Army Corps of Engineers if any impacts are proposed to jurisdictional riparian habitat. This authorization may require mitigation as deemed necessary by the Corps of Engineers.~~ The Agreement shall address the following to the satisfaction of the Department of Fish and Wildlife, if determined to be applicable after review of the development plans for that area:

The applicant will provide an approved ~~restoration~~ re-vegetation plan for riparian planting, consistent with BIO-2. Elements of that plan will include:

a. A map of locations and species for the plants installed in the ~~restoration~~ re-vegetation planting area;
b. A discussion of performance standards stating that ~~80~~ 100 percent of the 18 planted trees will be alive at the end of the five-year monitoring;
c. The method for determining whether plantings are alive at the end of each monitoring year (that is, each tree will be counted and determined to be dead or alive; dead trees will be replanted)
d. A discussion of contingency measures that could be used in the event that the ~~restoration~~ re-vegetation plantings fail. These measures could include, but are not limited to, making additional plantings and extending the monitoring period or purchasing additional credits in an acceptable fund or mitigation bank.
e. Submission of annual reports for the ~~restoration~~ re-vegetation project to the Department of Fish and Wildlife.
f. This plan must be approved by the Department of Fish and Wildlife before County permits are issued.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

Monitoring Responsibility: Planning Services

Monitoring Requirement: The applicant shall provide a copy of the 1602 Streambed Alteration Agreement to Planning Services prior to issuance of the grading permit. If it has been determined by Fish and Wildlife that said permit does not apply after their review of the development plans, the applicant shall provide Planning Services with verification from Fish and Wildlife that no Agreement is needed for the project, prior to issuance of a grading permit for the intermittent stream riparian habitat area.

~~Impact: The project could affect downstream water quality: The project has the potential to adversely affect water quality downstream, both during construction and during operation of the project. This impact would be significant. The applicant would implement the following mitigation measures to ensure downstream water quality. Implementation of these measures would reduce downstream water quality impacts to less than significant levels:~~

~~**BIO-4:** Water Quality Certification: A Water Quality Certification, Section 401 permit, if applicable, shall be obtained by the applicant from the California Central Valley Regional Water Quality Control Board for applicable project improvements prior to issuance of a grading permit. The Certification shall include (subject to CVRWQCB approval):~~

~~a. The applicant will prepare a Storm Water Pollution Prevention Plan for approval. That plan will describe methods for ensuring downstream water quality during grading and/or restoration and will be implemented during those processes.~~
~~b. Work areas will be separated by buffers and orange construction fencing to delineate the preserved riparian areas. No grading will be allowed within the fenced off buffer zones.~~
~~c. Waste and construction materials will be placed where they will not run off into the stream, or they will immediately be removed off-site.~~

~~**Monitoring Responsibility:** Planning Services/Building Services~~

~~**Monitoring Requirement:** The applicant shall provide a copy of the Section 401 permit to Planning Services prior to issuance of the grading permit. The Storm Water Pollution Prevention Plan shall be reviewed and approved by Building Services prior to issuance of a grading permit. If it has been determined by the California Regional Water Quality Control Board that said permit does not apply after their review of the development plans for the grading permit, the applicant shall provide Planning Services with confirmation from the RWQCB of that determination prior to issuance of the grading permit.~~

d. **Migration Corridors:** Review of the California Department of Fish and Wildlife California Wildlife Habitat Relationship System indicates that there are no mapped critical deer migration corridors on the project site. No removal of significant trees or shrubs would result from a project approval. As mitigated, the project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with any established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites. The riparian habitat would be subject of a restoration plan that would upgrade its potential for being a migration corridor. Impacts would be less than significant.

e. **Local Policies:** El Dorado County Code and General Plan Policies pertaining to the protection of biological resources would include protection of rare plants, setbacks to riparian areas, and mitigation of impacted oak woodlands. Rare plants were discussed above in the Special Status Species section.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

As discussed above in the wetland section, General Plan Policy 7.3.3.4 requires a minimum non-development setback of 50 feet from intermittent streams These standards may be modified in a particular instance if more detailed information relating to slope, soil stability, vegetation, habitat, or other site or project-specific conditions supplied as part of the review for a specific project demonstrates that s different setback is necessary or would be sufficient to protect the particular riparian area. This was discussed in more detail in the previous sections.

Provided that appropriate storm water Best Management Practices (BMPs) are in place to catch runoff as required by the mitigation measures listed above, there would be no significant effect anticipated to the stream bed. The following is a list of the BMPs that the project would be required to adhere as a part of the grading permit requirements by County Code. The Building Services Plan Checker will review the submitted grading plan and verify that the plan includes BMPs consistent with the County's California Stormwater Pollution Prevention Plan issued by the State Water Resources Control Board, prior to grading permit issuance:

Erosion Control	Sediment Control	Tracking Control	Non Storm Water Management
o Hydroseeding	o Silt Fence	o Stabilized Construction Entrance	o Water Conservation Practices
o Straw Mulch	o Fiber Rolls	Waste Management	o Vehicle and Equipment Cleaning
o Geotextiles and Mats	o Gravel Bag Berm	o Material Delivery and Storage	o Vehicle and Equipment Maintenance
Erosion Control	o Street Sweeping and Vacuuming	o Material Use	Non Storm Water Management

As conditioned, and with adherence to County Codes, the project would incorporate "Best Management Practices" and Mitigation Measures to minimize impacts on the intermittent stream.

Policy 7.4.4.4 establishes the native oak tree canopy retention and replacement standards. There are no oak trees located on the parcel.

f. **Adopted Plans**: This project, as designed, would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There would be a less than significant impact in this category.

FINDING: Mitigation measures have been included to reduce potentially significant impacts to a less than significant level. For the "Biological Resources" category, the thresholds of significance have not been exceeded and no significant environmental impacts would result from the project.

V. **CULTURAL RESOURCES.** *Would the project:*				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?			X	
b. Cause a substantial adverse change in the significance of archaeological resource pursuant to Section 15064.5?			X	
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	
d. Disturb any human remains, including those interred outside of formal cemeteries?			X	

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

Discussion: In general, significant impacts are those that diminish the integrity, research potential, or other characteristics that make a historical or cultural resource significant or important. A substantial adverse effect on Cultural Resources would occur if the implementation of the project would:

- Disrupt, alter, or adversely affect a prehistoric or historic archaeological site or a property or historic or cultural significant to a community or ethnic or social group; or a paleontological site except as a part of a scientific study;
- Affect a landmark of cultural/historical importance;
- Conflict with established recreational, educational, religious or scientific uses of the area; or
- Conflict with adopted environmental plans and goals of the community where it is located.

a. **Historic Resources:** The Cultural Resources Assessment dated November 2012 (Attachment 10) identified no significant prehistoric or historic archaeological sites, features, or artifacts. In the event sub-surface historical, cultural, or archeological sites or materials are disturbed during earth disturbances and grading activities on the site, standard Conditions of Approval would be included to reduce impacts to a less than significant level.

b-c. **Archaeological Resource, Paleontological Resource:** According to the Cultural Resources Study, no significant prehistoric or historic archaeological sites, features, or artifacts were found and the project site does not contain any known paleontological sites or known fossil strata/locales. In the event sub-surface historical, cultural, or archeological sites or materials are disturbed during earth disturbances and grading activities on the site, standard Conditions of Approval would be included to reduce impacts to a less than significant level.

d. **Human Remains:** There is a small likelihood of human remain discovery on the project site. During all grading activities, standard Conditions of Approval would be required that address accidental discovery of human remains. Impacts would be less than significant.

FINDING: No significant cultural resources were identified on the project site. Standard conditions of approval would be required with requirements for accidental discovery during project construction. This project would have a less than significant impact within the Cultural Resources category.

VI. GEOLOGY AND SOILS. *Would the project:*				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b. Result in substantial soil erosion or the loss of topsoil?			X	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site			X	

VI. GEOLOGY AND SOILS. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
landslide, lateral spreading, subsidence, liquefaction or collapse?				
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial risks to life or property?			X	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X

Discussion: A substantial adverse effect on Geologic Resources would occur if the implementation of the project would:

- Allow substantial development of structures or features in areas susceptible to seismically induced hazards such as groundshaking, liquefaction, seiche, and/or slope failure where the risk to people and property resulting from earthquakes could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards;

- Allow substantial development in areas subject to landslides, slope failure, erosion, subsidence, settlement, and/or expansive soils where the risk to people and property resulting from such geologic hazards could not be reduced through engineering and construction measures in accordance with regulations, codes, and professional standards; or

- Allow substantial grading and construction activities in areas of known soil instability, steep slopes, or shallow depth to bedrock where such activities could result in accelerated erosion and sedimentation or exposure of people, property, and/or wildlife to hazardous conditions (e.g., blasting) that could not be mitigated through engineering and construction measures in accordance with regulations, codes, and professional standards.

a. **Seismic Hazards:**

i) According to the California Department of Conservation, Division of Mines and Geology, there are no Alquist-Priolo fault zones within El Dorado County. The nearest such faults are located in Alpine and Butte Counties. There would be no impact.

ii) The potential for seismic ground shaking in the project area is considered less than significant. Any potential impacts due to seismic impacts would be addressed through compliance with the Uniform Building Code. All structures would be built to meet the construction standards of the UBC for the appropriate seismic zone. Impacts would be less than significant.

iii) El Dorado County is considered an area with low potential for seismic activity. The Preliminary Drainage Report reported that liquefaction is the sudden loss of soil shear strength and sudden increase in porewater pressure caused by shear strains, as could result from an earthquake. Research has shown that saturated, loose to medium-dense sands with a silt content less than about 25 percent located within the top 40 feet are most susceptible to liquefaction and surface ruptureliateral spreading. Slope instability can occur as a result of seismic ground motions andlor in combination with weak soils and saturated conditions.

The Drainage Report determined that due to the absence of a permanent elevated groundwater table, the relatively low seismicity of the area, and the relatively shallow depth to the bedrock horizon, the potential damage due to site liquefaction, slope instability and surface rupture are considered negligible. For the above mentioned reasons,

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

mitigation for these potential hazards is typically not practiced in the geographic vicinity of the project site. Impacts would be less than significant.

iv) All grading activities onsite would be required to comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance. Compliance with the Ordinance would reduce potential landslide impacts to less than significant.

b. **Soil Erosion:** The site soils north of the stream are covered with piles of soils deposited during the construction of the surrounding roads. There is no grading proposed for south of the stream where there are no piles of soil. All grading activities exceeding 250 cubic yards of graded material or grading completed for the purpose of supporting a structure must meet the provisions contained in the *County of El Dorado - Grading, Erosion, and Sediment Control Ordinance A*dopted by the County of El Dorado Board of Supervisors, August 10, 2010 (Ordinance #4949). According to the Soil Survey for El Dorado County, the project site contains AwD, (Auburn silt loam with 2 to 30 percent slopes) with slight to moderate erosion hazard. All grading activities onsite would comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance including the implementation of pre- and post-construction Best Management Practices (BMPs). The implemented BMPs are required to be consistent with the County's California Stormwater Pollution Prevention Plan issued by the State Water Resources Control Board to eliminate run-off and erosion and sediment controls. Implementation of these BMPs would reduce potential significant impacts of soil erosion or the loss of topsoil to a less than significant level. Imported soils are discussed below in the Hydrology section.

c-d. **Geologic Hazards, Expansive Soils:** As stated above, the project site contains Auburn silt loam soils. The Soil Survey for El Dorado County lists this type as having low shrink-swell potential. There are no excessively steep slopes on the surrounding parcels entering into the subject parcel. The site would not be anticipated to be subject to off-site landslide, lateral spreading, subsidence, liquefaction or collapse, nor does it have expansive soils.

Approximately 18,000 cubic yards of imported soil is proposed. The grading permit would require the analysis of fill materials, scarification of native soil prior to fill, and compaction. Import material is required to be analyzed with a soils report as part of the grading permit process prior to transporting it to the project. At a minimum the import material is required to meet the following requirements:

1. Plasticity index not to exceed 12.
2. Not more than 15 percent passing through the No. 200 sieve;
3. Have an internal angle of friction of at least 33 degrees;
4. "R"-value of equal to or greater than 30;
5. Should not contain rocks larger than 6 inches in diameter.

The project would be required to comply with the El Dorado County Grading, Erosion and Sediment Control Ordinance and the development plans for the proposed buildings would be required to implement the Uniform Building Code Seismic construction standards. As such, impacts would be reduced to a less than significant level.

e. **Septic Capability:** The project would be connecting to public sewer. There would be no impact.

FINDING: All grading activities would be required to comply with the El Dorado County Grading, Erosion Control and Sediment Ordinance which would address potential impacts related to soil erosion, landslides and other geologic impacts. Future development would be required to comply with the Uniform Building Code which would address potential seismic related impacts. For this 'Geology and Soils' category impacts would be less than significant.

VII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

a-b. **Generate Greenhouse Gas Emissions and Policy:**

Background/Science

Cumulative greenhouse gases (GHG) emissions are believed to contribute to an increased greenhouse effect and global climate change, which may result in sea level rise, changes in precipitation, habitat, temperature, wildfires, air pollution levels, and changes in the frequency and intensity of weather-related events. While criteria pollutants and toxic air contaminants are pollutants of regional and local concern (see Section III. Air Quality above); GHG are global pollutants. The primary land-use related GHG are carbon dioxide (CO_2), methane (CH_4) and nitrous oxides (N_2O). The individual pollutant's ability to retain infrared radiation represents its "global warming potential" and is expressed in terms of CO_2 equivalents; therefore CO_2 is the benchmark having a global warming potential of 1. Methane has a global warming potential of 21 and thus has a 21 times greater global warming effect per metric ton of CH_4 than CO_2. Nitrous Oxide has a global warming potential of 310. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., $MTCO_2e/yr$). The three other main GHG are Hydroflourocarbons, Perflourocarbons, and Sulfur Hexaflouride. While these compounds have significantly higher global warming potentials (ranging in the thousands), all three typically are not a concern in land-use development projects and are usually only used in specific industrial processes.

GHG Sources

The primary man-made source of CO_2 is the burning of fossil fuels; the two largest sources being coal burning to produce electricity and petroleum burning in combustion engines. The primary sources of man-made CH_4 are natural gas systems losses (during production, processing, storage, transmission and distribution), enteric fermentation (digestion from livestock) and landfill off-gassing. The primary source of man-made N_2O is agricultural soil management (fertilizers), with fossil fuel combustion a very distant second. In El Dorado County, the primary source of GHG is fossil fuel combustion mainly in the transportation sector (estimated at 70% of countywide GHG emissions). A distant second are residential sources (approximately 20%), and commercial/industrial sources are third (approximately 7%). The remaining sources are waste/landfill (approximately 3%) and agricultural (<1%).

Regulation

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the *California Climate Solutions Act of 2006* (Stats. 2006, ch. 488) (Health & Safety Code, § 38500 et seq.). AB 32 requires a statewide GHG emissions reduction to 1990 levels by the year 2020. AB 32 requires the California Air Resources Board (CARB) to implement and enforce the statewide cap. When AB 32 was signed, California's annual GHG emissions were estimated at 600 million metric tons of CO_2 equivalent ($MMTCO_2e$) while 1990 levels were estimated at 427 $MMTCO_2e$. Setting 427 $MMTCO_2e$ as the emissions target for 2020, current (2006) GHG emissions levels must be reduced by 29%. CARB adopted the AB 32 Scoping Plan[1] in December 2008 establishing various actions the state would implement to achieve this reduction. The Scoping Plan recommends a community-wide GHG reduction goal for local governments of 15%.

[1] AB 32 Scoping Plan: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

In June 2008, the California Governor's Office of Planning and Research's (OPR) issued a Technical Advisory[2] providing interim guidance regarding a proposed project's GHG emissions and contribution to global climate change. In the absence of adopted local or statewide thresholds, OPR recommends the following approach for analyzing GHG emissions: Identify and quantify the project's GHG emissions, assess the significance of the impact on climate change; and if the impact is found to be significant, identify alternatives and/or Mitigation Measures that would reduce the impact to less-than-significant levels.[3]

Analysis Methodology

A Greenhouse Gas Analysis for the ARCO Green Valley Road at Sophia Pkwy Project dated December 4, 2012 was submitted for the proposed project, which included the project's potential GHG emissions. The study used the California Emissions Estimation Model (CalEEMod) version 2011.1.1 for quantification of project-related GHG and criteria pollutant emissions. The study found the project's estimated GHG emissions resulting from both construction and operations would equal 850.64 metric tons of CO_2e per year.

El Dorado County Air Quality Management District (EDCAQMD) reviewed the applicant's Air Quality and Greenhouse Gas Impact Analysis and concurs with its findings and conclusions.

Impact Significance Criteria

CEQA does not provide clear direction on addressing climate change. It requires lead agencies identify project GHG emissions impacts and their "significance," but is not clear what constitutes a "significant" impact. As stated above, GHG impacts are inherently cumulative, and since no single project could cause global climate change, the CEQA test is if impacts are "cumulatively considerable." Not all projects emitting GHG contribute significantly to climate change. CEQA authorizes reliance on previously approved plans (i.e., a Climate Action Plan (CAP), etc.) and mitigation programs adequately analyzing and mitigating GHG emissions to a less than significant level. "Tiering" from such a programmatic-level document is the preferred method to address GHG emissions. El Dorado County does not have an adopted CAP or similar program-level document; therefore, the project's GHG emissions must be addressed at the project-level.

Unlike thresholds of significance established for criteria air pollutants in EDCAQMD's *Guide to Air Quality Assessment* (February 2002) ("CEQA Guide"),[4] the District has not adopted GHG emissions thresholds for land use development projects. In the absence of County adopted thresholds, EDCAQMD recommends using the adopted thresholds of other lead agencies which are based on consistency with the goals of AB 32. Since climate change is a global problem and the location of the individual source of GHG emissions is somewhat irrelevant, it's appropriate to use thresholds established by other jurisdictions as a basis for impact significance determinations. Projects exceeding these thresholds would have a potentially significant impact and be required to mitigate those impacts to a less than significant level. Until the County adopts a CAP consistent with CEQA Guidelines Section 15183.5, and/or establishes GHG thresholds, the County will follow an interim approach to evaluating GHG emissions utilizing significance criteria adopted by the San Luis Obispo Air Pollution Control District (SLOAPCD) to determine the significance of GHG emissions.

These thresholds are summarized below:

Significance Determination Thresholds	
GHG Emission Source Category	**Operational Emissions**

[2] OPR Technical Advisory: CEQA and Climate Change: http://opr.ca.gov/docs/june08-ceqa.pdf
[3] California Energy Commission. 2006. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004.* (Staff Final Report). http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF
[4] EDCAQMD CEQA Guide: http://edcgov.us/Government/AirQualityManagement/Guide_to_Air_Quality_Assessment.aspx

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

Non-stationary Sources	1,150 $MTCO_2e$/yr OR 4.9 MT CO_2e/SP/yr
Stationary Sources	10,000 $MTCO_2e$/yr

SP = service population, which is resident population plus employee population of the project

Project Emissions Analysis

Development of the site with a 4,602 square-foot open-sided canopy with eight self-service fuel pumps, a 2,773 square foot convenience store, a 2,183 square foot fast food restaurant with drive-through, and a 1,196 square foot single-bay self-service carwash, and associated infrastructure, would result in uses typically associated with a commercial development located within a Community Region Planning Concept area.

The project includes a stationary source of pollution, {gas station} which would be subject to EDCAQMD Permitting Rules.[5] The proposed project would contribute to increases of GHG emissions primarily from motor vehicles, and energy usage.

The proposed project's short-term construction-related GHG emissions and long-term operational project GHG emissions were estimated using CalEEMod. The assumed project operational year used in the model is 2013.

Short-Term (Construction) GHG Emissions

Construction emissions were computed for an approximate six-month construction period occurring in 2013. Construction phases in CalEEMod include demolition, site preparation, grading, building construction, paving, and architectural coating. Construction emissions estimation includes approximately 15,000 cubic yards of imported and 200 cubic yards of exported material. The various construction emissions default values provided by CalEEMod were used unless stated otherwise.

Estimated increases in GHG emissions associated with construction of the proposed project are summarized below

Unmitigated Construction GHG Emissions	
Year	**CO2 emissions (MTCO2*e*)**
2013	166
Source: CalEEMod Version 2011.1.1	

Based on the modeling, short-term unmitigated emissions of GHG associated with construction of the proposed project are estimated at 166 $MTCO_2e$/yr. Construction GHG emissions are a one-time release and, therefore, typically not expected to generate a significant contribution to global climate change.

Long-Term (Operational) GHG Emissions

The long-term project operational GHG emissions estimate incorporates potential area source and vehicle emissions, utility, water usage, wastewater and solid waste generation emissions. In order to present a worst-case scenario, the proposed project's construction-related GHG emissions have been amortized over the lifetime of the proposed project (in this case, 25 years) and included with the operational GHG emissions. Estimated project GHG emissions are summarized below.

Unmitigated Operational GHG Emissions

[5] EDCAQMD Rules: http://www.arb.ca.gov/drdb/ed/cur.htm

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

Year	Annual CO2 emissions (MTCO2*e*)
Annual Operational GHG Emissions	844
Total Construction GHG Emissions[1]	6.64 (166/25)
Total GHG Emissions	**850.64**

[1] Construction GHG emissions are a one-time release; however, the project's construction GHG emissions have been amortized over a 25-year period (i.e., the approximate lifetime of the proposed project) and added to the annual operational GHG emissions in order to present an absolute worst-case scenario. Because construction would occur for only one year, assuming construction emissions occur each year presents an exaggerated total value for operational GHG emissions.
Source: CalEEMod Version 2011.1.1

The proposed project's total unmitigated GHG impacts are 850.64 $MTCO_2e/yr$, which does not exceed the established 1,150 $MTCO_2e/yr$ threshold. Therefore, project GHG impacts would be less than significant, and no further mitigations would be required.

Conclusion

Short-term construction GHG emissions are a one-time release of GHG and are not expected to significantly contribute to global climate change over the lifetime of the proposed project. Construction emissions have been included with the operational emissions in order to present a worst-case scenario. While the project does not require GHG emissions mitigation, the project does incorporate various features consistent with those mitigation measures suggested by the Office of the Attorney General and the California Air Pollution Control Officers Association (CAPCOA) such as providing open space. Finally, future structural development of the site will be required to comply with the 2010 California Green Building Standards Code (CALGreen Code), which includes measures to increase the energy efficiency of buildings. Therefore, the proposed project's GHG emissions would be less than significant. (See Attachment 7, Greenhouse Gas Analysis for the ARCO Green Valley Road at Sophia Pkwy Project, December 4, 2012).

FINDING: For this "Greenhouse Gas Emissions" category, as conditioned, and with adherence to County Code, impacts would be anticipated to be less than significant.

VIII. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the				X

VIII. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
project area?				
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			X	

Discussion: A substantial adverse effect due to Hazards or Hazardous Materials would occur if implementation of the project would:

- Expose people and property to hazards associated with the use, storage, transport, and disposal of hazardous materials where the risk of such exposure could not be reduced through implementation of Federal, State, and local laws and regulations;
- Expose people and property to risks associated with wildland fires where such risks could not be reduced through implementation of proper fuel management techniques, buffers and landscape setbacks, structural design features, and emergency access; or
- Expose people to safety hazards as a result of former on-site mining operations.

a-b. **Hazardous Materials:** The project may involve transportation, use, and disposal of hazardous materials such as construction materials, paints, fuels, and landscaping materials. The majority of the use of these hazardous materials would occur primarily during construction and/or routine intermittent maintenance.

The project also includes the installation of two underground gasoline storage tanks. On an ongoing basis, the service station would receive deliveries of fuel to be deposited in their underground storage tanks for dispensing from the pumps. After construction, the project is required to comply with AQMD Rule 238, Gasoline Transfer and Dispensing (See Attachment 12). This rule applies to the transfer of gasoline from any tank truck, trailer, or railroad tank car into any stationary storage tank or mobile fueler; and, from any stationary storage tank or mobile fueler into any mobile fueler or motor vehicle fuel tank. Any uses of hazardous materials would be required to comply with all applicable federal, state, and local standards associated with the handling and storage of hazardous materials.

Prior to any use of any excessive amounts of hazardous materials, the project would be required to obtain a Hazardous Materials Business Plan through the Environmental Management-Hazardous Materials and Solid Waste Division of El Dorado County. Drainage and stormwater in relation to control of potential hazardous substances are discussed in more detail below in the Utilities and Service Systems section. With adherence to County Code, impacts would be a less than significant.

c. **Hazardous Materials near Schools:** The project parcel is not located within 0.25 mile from a school. There would be no impacts.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

d. **Hazardous Sites:** The parcel has been vacant since its creation. No evidence of recognized environmental conditions was found by the engineers that analyzed the site for grading and drainage. Additionally, no parcels within El Dorado County are included on the Cortese List which lists known hazardous sites in California. Impacts would be anticipated to be less than significant.

e-f. **Aircraft Hazards, Private Airstrips:** The project is not located in the vicinity of a public or private airstrip. As such, the project would not be subject to any land use limitations contained within any adopted Comprehensive Land Use Plan and there would be no immediate hazard for people residing or working in the project area or safety hazard resulting from airport operations and aircraft over-flights in the vicinity of the project site. No impacts would be anticipated to occur within these categories.

g. **Emergency Plan:** As conditioned for adequate fire apparatus roads, surfacing, and the no parking areas, neither DOT nor El Dorado Hills Fire Department responded with any concern that any emergency plan would be affected by the current proposal. They determined that the commercial business would allow for adequate secondary emergency ingress/egress and drive-aisle widths for interior circulation. Impacts would be less than significant.

h. **Wildfire Hazards:** The degree of hazard in wildland areas depends on weather variables like temperature, wind, and moisture, the amount of dryness and arrangement of vegetation, slope steepness, and accessibility to human activities, accessibility of firefighting equipment, and fuel clearance around structures. The El Dorado Hills Fire Department has reviewed the project and did not identify significant wildfire hazards particular to this site. Impacts would be anticipated to be less than significant level.

FINDING: The proposed project is not anticipated to expose the area to hazards relating to the use, storage, transport, or disposal of hazardous materials. Any proposed use of excessive amounts of hazardous materials would be subject to review and approval of a Hazardous Materials Business Plan issued by the Hazardous Materials and Solid Waste Division. For this 'Hazards and Hazardous Materials' category, impacts would be less than significant.

IX. HYDROLOGY AND WATER QUALITY. *Would the project:*				
a. Violate any water quality standards or waste discharge requirements?			X	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or -off-site?			X	
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			X	
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	

IX. HYDROLOGY AND WATER QUALITY. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
f. Otherwise substantially degrade water quality?			X	
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j. Inundation by seiche, tsunami, or mudflow?			X	

Discussion: A substantial adverse effect on Hydrology and Water Quality would occur if the implementation of the project would:

- Expose residents to flood hazards by being located within the 100-year floodplain as defined by the Federal Emergency Management Agency;
- Cause substantial change in the rate and amount of surface runoff leaving the project site ultimately causing a substantial change in the amount of water in a stream, river or other waterway;
- Substantially interfere with groundwater recharge;
- Cause degradation of water quality (temperature, dissolved oxygen, turbidity and/or other typical stormwater pollutants) in the project area; or
- Cause degradation of groundwater quality in the vicinity of the project site.

a. **Water Quality Standards:** Any grading, encroachment, and improvement plans required by the DOT and Development Services would be required to be prepared and designed to meet the County of El Dorado Grading, Erosion, and Sediment Control Ordinance. These standards require that erosion and sediment control be implemented into the design of the project. If the project is not required to connect to public sewer, the project septic system design would be reviewed and approved by the Environmental Health Division. Project related construction activities would be required to adhere to the El Dorado County Grading, Erosion Control and Sediment Ordinance which would require the implementation and execution of Best Management Practices (BMPs) to minimize degradation of water quality during implementation of the Best Management Practices, stream restoration, and potential parking lot paving. This is discussed in more detail below in the Utilities and Service systems section. As conditioned, ~~and mitigated with Mitigation Measure BIO-4,~~ impacts would be anticipated to be less than significant.

b. **Groundwater Supplies:** The Environmental Health Division reviewed the project proposal and did not report evidence that the project would substantially reduce or alter the quantity of groundwater in the vicinity, or materially interfere with groundwater recharge. Impacts would be less than significant.

c-f. **Drainage Patterns:** A Preliminary Drainage Report dated January 31, 2013 was submitted for the project (see Attachment 16). The handling of the stormwater in relation to the stream is discussed in detail below in the Utilities and Service System section. The Drainage Report determined that based on a review of the Reference No. 1 on the grading plans, fills on the order of about 13 feet (maximum) are proposed to raise the site above Sophia Parkway

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

and to an elevation equal with Green Valley Road. To accomplish this, approximately 18,000 cubic yards of import is proposed. The grading permit would require the analysis of fill materials, scarification of native soil prior to fill, and compaction. The post-project drainage would be handled by an underground vault system and drainage volumes would be required to be substantially the same pre and post project.

As conditioned for stream restoration, ~~mitigated for~~ and compliance with California Water Quality Control Board standards, and with implementation of Best Management Practices during the grading permit process, no adverse increase in the overall runoff and flows are expected. The project would be required to conform to the El Dorado County Grading, Erosion Control and Sediment Ordinance. Drainage is also discussed below in the Utilities and Service systems section. Impacts would be less than significant.

g-h. **Flood-related Hazards:** The project site is not located within any mapped 100-year flood areas as shown on Firm Panel Number 06017C0725E, revised September 26, 2008. There would be no impacts.

i. **Dam or Levee Failure:** The Morman Island Dam, one of the dams containing Folsom Lake, is located approximately 900 feet to the northwest across Green Valley Road. The subject property is located approximately 1,400 feet southeast of the dam but not directly downstream of a potential flow. Impacts would be anticipated to be less than significant.

j. **Inundation by Seiche, Tsunami, or Mudflow:** The proposed project is not located near a coastal area or adjacent to a large body of water such as a bay, or estuary, volcanoes, or other volcanic features. As discussed above, due to the project location, there is no potential for impacts from seiche or tsunami, and less than significant impacts anticipated from mudflow potentially coming from a dam failure.

FINDING: The proposed project would require an encroachment permit through the DOT and grading permit through Building Services that would address erosion and sediment control. As conditioned and with adherence to County Code, no significant hydrological impacts are expected with the development of the project either directly or indirectly.

X. **LAND USE PLANNING.** *Would the project:*				
a. Physically divide an established community?			X	
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X	
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Discussion: A substantial adverse effect on Land Use would occur if the implementation of the project would:

- Result in the conversion of Prime Farmland as defined by the State Department of Conservation;
- Result in conversion of land that either contains choice soils or which the County Agricultural Commission has identified as suitable for sustained grazing, provided that such lands were not assigned urban or other nonagricultural use in the Land Use Map;
- Result in conversion of undeveloped open space to more intensive land uses;
- Result in a use substantially incompatible with the existing surrounding land uses; or

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

- Conflict with adopted environmental plans, policies, and goals of the community.

a. **Established Community:** The project would be compatible with the surrounding residential, commercial and open space land uses and would not be anticipated to create land use conflicts not anticipated by the General Plan EIR, as well as the site-specific studies submitted for the project for commercial uses. The project proposes retail/restaurant-related uses which would be compatible with the project site's General Plan Commercial land use designation. With an approved Development Plan, the project would be compatible with the C land use designation and with the C-PD zoning designation. Impacts would be anticipated to be less than significant.

b. **Land Use Consistency:** As conditioned, the proposed project would be consistent with the specific, fundamental, and mandatory land use development goals, objectives, and policies of the 2004 General Plan, and would be consistent with the development standards contained within the El Dorado County Zoning Ordinance. With an approved Development Plan, the project would be consistent with the project site's General Plan C land use designation, and the C-PD Zone District. Impacts would be anticipated to be less than significant.

c. **Habitat Conservation Plan:** The project site is not within the boundaries of an adopted Habitat Conservation Plan (HCCP), or a Natural Community Conservation Plan (NCCP), or any other conservation plan. As such, the proposed project would not conflict with an adopted conservation plan. There would be no impact.

FINDING: With an approved special use permit and development plan, the proposed uses of the land would be consistent with the zoning and the General Plan land use designation. There would be no significant impact from the project due to a conflict with the General Plan or zoning designations for use of the property. No significant impacts are expected.

XI. MINERAL RESOURCES. *Would the project:*				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				**X**
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				**X**

Discussion: A substantial adverse effect on Mineral Resources would occur if the implementation of the project would:

- Result in obstruction of access to, and extraction of mineral resources classified MRZ-2x, or result in land use compatibility conflicts with mineral extraction operations.

a. **Mineral Resource Loss-Region, State:** The project site is not mapped as being within a Mineral Resource Zone (MRZ) by the State of California Division of Mines and Geology or in the El Dorado County General Plan. No impacts would occur.

b. **Mineral Resource Loss-Locally:** The Western portion of El Dorado county is divided into four, 15 minute quadrangles (Folsom, Placerville, Georgetown, and Auburn) mapped by the State of California Division of Mines and Geology showing the location of Mineral and Resource Zones (MRZ). Those areas which are designated MRZ-2a contain discovered mineral deposits that have been measured or indicate reserves calculated. Land in this category is considered to contain mineral resources of known economic importance to the County and/or State. Review of the mapped areas of the County indicates that this site does not contain any mineral resources of known local or statewide economic value. No impacts would occur.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

FINDING: No impacts to any known mineral resources would occur as a result of the project. Therefore, no mitigation is required. For the 'Mineral Resources' category, the project would not exceed the identified thresholds of significance.

XII.NOISE. *Would the project result in:*				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise level?				X
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

Discussion: A substantial adverse effect due to Noise would occur if the implementation of the project would:

- Result in short-term construction noise that creates noise exposures to surrounding noise sensitive land uses in excess of 60dBA CNEL;
- Result in long-term operational noise that creates noise exposures in excess of 60 dBA CNEL at the adjoining property line of a noise sensitive land use and the background noise level is increased by 3dBA, or more; or
- Results in noise levels inconsistent with the performance standards contained in Table 6-1 and Table 6-2 in the El Dorado County General Plan.

a. **Noise Exposures:** General Plan Policy 6.5.1.7 states that noise created by new non-transportation noise sources shall be mitigated so as not to exceed any of the noise level standards of Table 6.2, as measured immediately within the property line of the receiving property.

Table 6-2
Performance Standards for Non-Transportation Noise Sources
El Dorado County Noise Element – Community Areas

	Daytime (7am-7pm)	Evening (7pm-10pm)	Night (10pm-7am)
Hourly dB	55	50	45
Max. dB	70	60	55

Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

An Environmental Noise Analysis dated ~~October 9, 2012~~ July 18, 2013 was submitted for the project and a copy is provided as Attachment 13. The noise analysis evaluated project-related noises and determined that the carwash and vacuums elements of the project would create the most noise. All Tables and Figures referred to below are located within the Noise Analysis included as Attachment 14.

Vacuums: The Noise Analysis utilized file data of a typical vacuum system for car washes in order to predict noise levels at the nearest noise-sensitive receivers. Figure 1 illustrates the proposed location of the vacuums. A typical vacuum system was analyzed and the quietest unit for which the manufacturer had quantified noise level data indicated that a typical vacuum system is expected to generate a noise level of approximately 68 dB at a distance of 20 feet. The Noise Analysis assumed that the vacuums could operate continuously for an entire hour (worst-case). The Table 3 data shows the predicted vacuum noise levels at the ~~future residential property line to the southwest of the project~~ nearest noise-sensitive receptor.

~~Table 3~~
~~ARCO AM/PM at Green Valley Road and Sophia Parkway~~
~~Car Wash and Vacuum Noise Levels~~

~~Noise Source~~	~~Predicted Hourly Leq (dB~~	~~Distance (feet)~~	~~Predicted Hourly Leq (dB)~~
~~Car wash dryers~~		~~450~~	~~38~~
~~Vacuums~~		~~525~~	~~40~~

As shown in Table 3, ~~car wash dryers and~~ vacuum noise levels are predicted to be approximately ~~38 dB and~~ 36-40 dB Leq/Lmax~~, respectively~~ at ~~a distance of 525 feet~~ the nearest noise-sensitive receiver locations. ~~The closest existing residence is located approximately 750 feet to the southeast measured by air photo. The parcels to the west and southwest are designated by the General Plan for commercial uses. The residentially designated parcels in that direction are located approximately 700 feet away.~~ These levels would be in compliance with the applicable daytime noise level standard of 55 dB Leq, as well as the evening noise level standard of 50 dB Leq. As a result, no mitigation measures are warranted for this aspect of the project. Impacts would be anticipated to be less than significant using the General Plan criteria discussed above.

Car Wash: The Noise Analysis reported that noise levels generated by car washes are primarily due to the drying portion of car wash operations. The project applicant has indicated that they intend to install the 30 horsepower drying system manufactured by Premier Touchless Drying System. Figure 1 illustrates the proposed location of the car wash relative to the nearest noise sensitive receivers. ~~The typical~~ This dryer system noise level data indicated that the proposed drying system is expected to generate a noise level of approximately ~~71~~ 87 dB Lmax at a distance of 20 feet. This reference noise level is based on a 30 horsepower drying system that includes ~~a silencer package~~ the Premier Plastic Housing. Because the drying cycle represents a small portion of the overall wash, the dryers are anticipated to operate for no more than 15 minutes during any given hour. The calculated Hourly Leq given 15 minute usage of the dryer cycle would be ~~65~~ 81 dB at a reference distance of 20 feet. The Table ~~3~~ 4 data shows the predicted car wash noise levels at the ~~future residential property line to the southwest of the project~~ nearest noise-sensitive receiver locations.

As shown in Table 4, car wash noise levels are predicted to be approximately 50-54 dB Leq and 56-60 dB Lmax at the nearest noise-sensitive receiver locations. These levels would be in compliance with the applicable daytime noise level standards (55 dB Leq, 70 dB Lmax) as well as the evening maximum noise level standard (60 dB Lmax). However, the predicted carwash noise levels would exceed the evening hourly average standard (50 dB Leq) and nighttime noise level standards (45 dB Leq, 55 dB Lmax). As a result, consideration of additional noise mitigation measures would be warranted for this aspect project. In order to reduce potentially significant impacts to a less than significant level, the following mitigation measure is recommended:

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

NOISE-1: The applicant shall ensure the inclusion of carwash entrance and exit doors that result in a reference noise level of 72 dB Lmax at 20 feet.

Monitoring Responsibility: Planning Services

Monitoring Requirement: The applicant shall provide Planning Services with proof that the carwash will include doors as described above and within the Environmental Noise Analysis dated July 18, 2013, prior to issuance of the building permit for the carwash. Planning shall verify installation of the doors prior to building permit final for the carwash.

Drive-Through Noise: The Noise Analysis utilized noise level data previously collected for similar drive-through operations and found that the drive through speaker and idling vehicles are expected to generate noise levels of 60 and 55 dB Lmax at a distance of 50 feet, respectively. Figure 1 illustrates the proposed location of the drive-through relative to the nearest noise-sensitive receivers. The Noise Analysis used a conservative assumption that the speakers would be in use for 10 percent of a busy hour and found that average levels would be 10 dB lower than maximum noise permitted levels. The predicted drive-through noise levels at the nearest noise-sensitive receiver locations are shown in Table 5.

Table 5 also indicates that vehicle idling noise levels are predicted to be approximately 32-38 dB Leq/Lmax at the nearest noise-sensitive receiver locations. These levels would be in compliance with the applicable daytime noise level standards (55 dB Leq, 70 dB Lmax), as well as the evening noise level standards (50 dB Leq, 60 dB Lmax).

Speaker noise levels are predicted to be approximately 27-33 dB Leq and 37-43 dB Lmax. As required by El Dorado County, the noise level standards presented in Table 2 are reduced by 5 dB due to the speech component of the noise source. Nonetheless, the predicted speaker noise levels presented in Table 5 would be in compliance with the adjusted El Dorado County noise level standards. As a result, the Noise Analysis found that no additional noise mitigation measures would be warranted for this aspect of the project.

As mitigated, the noise levels of the carwash, would be reduced to a less than significant level. The noise impacts of the vacuums, and drive-through speakers would be less than significant.

b. **Ground Borne Shaking:** The project may generate intermittent ground borne vibration or shaking events during project construction. These potential impacts would be limited to project construction and grading. Adherence to the time limitations of construction activities to 7:00am to 7:00pm Monday through Friday and 8:00am to 5:00pm on weekends and federally recognized holidays would limit the ground shaking effects in the project area. Impacts would be anticipated to be less than significant.

c. **Permanent Increase in Ambient Noise Levels:** The Noise Analysis analyzed the existing ambient noise environment and the noise environment in the project vicinity and defined it as being primarily created by traffic noise emanating from Green Valley Road and Sophia Parkway. To generally quantify background noise levels in the project vicinity, short-term ambient noise level measurements were taken at points shown in Figure 1 of the analysis. The noise level meter was programmed to record the average noise level (Leq) and the maximum noise level (Lmax) descriptors. Table 2 below shows a summary of the noise measurement results:

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

Table 2 Summary of Ambient Noise Level Measurements ARCO AM/PM at Green Valley Road & Sophia Parkway – October 9, 2012			
Location	Time of Day	Leq	Lmax
Project Site (See Figure 1)	10:00 am	54	66

The background noise level data provided in Table 2 indicate that noise levels measured at the nearest noise-sensitive receiver location are in the general range of daytime and evening noise level performance standards shown in Table 6.2 for Hourly (Leq) and maximum noise levels (Lmax), and the project car wash is not proposed to operate during nighttime hours. As a result, compliance with the Table 1 noise standards would ensure that the project does not result in a significant noise level increase in the community during daytime and evening hours.

The project would not be anticipated increase the ambient noise levels in the area in excess of the established noise thresholds. Impacts would be anticipated to be less than significant.

d. **Temporary or Periodic Increase in Ambient Noise Levels:** The project would include construction activities for the grading, construction, implementation of Best Management Practices, and stream restoration. The short-term noise increases would potentially exceed the thresholds established by the General Plan. Standard Conditions of Approval would limit the hours of construction activities to 7:00am to 7:00pm Monday through Friday and 8:00am to 5:00pm on weekends and federally recognized holidays. Adherence to the limitations of construction would be anticipated to reduce potentially significant impacts to a less than significant level.

e-f. **Aircraft Noise:** The project site is not located within an airport land use plan or is it within two miles of a public airport or public use airport. There would be no impacts.

FINDING: For the 'Noise' category, impacts would be anticipated to be less than significant.

XIII. **POPULATION AND HOUSING.** *Would the project:*				
a. Induce substantial population growth in an area, either directly (i.e., by proposing new homes and businesses) or indirectly (i.e., through extension of roads or other infrastructure)?				X
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Discussion: A substantial adverse effect on Population and Housing would occur if the implementation of the project would:

- Create substantial growth or concentration in population;
- Create a more substantial imbalance in the County's current jobs to housing ratio; or
- Conflict with adopted goals and policies set forth in applicable planning documents.

a-c. **Population Growth, Housing Displacement, and Replacement Housing:** No housing or people would be displaced. Routine maintenance visits to the facility would be limited to employees or carrier-approved maintenance personnel. There would be no impacts anticipated.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

FINDING: The project would not displace housing. There would be no potential for a significant impact due to substantial growth with the commercial facility either directly or indirectly. For this "Population and Housing" category, the thresholds of significance would not be anticipated to be exceeded.

XIV. **PUBLIC SERVICES.** *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*				
a. Fire protection?			X	
b. Police protection?			X	
c. Schools?				X
d. Parks?				X
e. Other government services?			X	

Discussion: A substantial adverse effect on Public Services would occur if the implementation of the project would:

- Substantially increase or expand the demand for fire protection and emergency medical services without increasing staffing and equipment to meet the Department's/District's goal of 1.5 firefighters per 1,000 residents and 2 firefighters per 1,000 residents, respectively;
- Substantially increase or expand the demand for public law enforcement protection without increasing staffing and equipment to maintain the Sheriff's Department goal of one sworn officer per 1,000 residents;
- Substantially increase the public school student population exceeding current school capacity without also including provisions to adequately accommodate the increased demand in services;
- Place a demand for library services in excess of available resources;
- Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
- Be inconsistent with County adopted goals, objectives or policies.

a. **Fire Protection:** The El Dorado Hills Fire Department currently provides fire protection services to the project area. They did not respond with any concerns that the project would significantly affect their ability to provide adequate fire protection. Therefore, development of the project would not be anticipated to increase the demand for fire protection services, and would not prevent the Department from meeting its response times for the project or its designated service area any more than exists today. Impacts would be less than significant.

b. **Police Protection:** Police services would continue to be provided by the El Dorado County Sheriff's Department. Due to the size and scope of the project, the demand for additional police protection would not be anticipated. Impacts would be less than significant.

c, d, e. **Schools, Parks, Government Services:** Project approval would not result in any permanent population-related increases that would substantially contribute to increased demand on schools, parks, or other governmental services that could, in turn, result in the significant need for new or expanded facilities. Impacts would be less than significant.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

FINDING: Adequate public services are available to serve the project. There would be insignificant levels of increased demands to services anticipated as a result of the project. For this 'Public Services' category, impacts would be less than significant.

Discussion: A substantial adverse effect on Recreational Resources would occur if the implementation of the project would:

- Substantially increase the local population without dedicating a minimum of 5 acres of developed parklands for every 1,000 residents; or
- Substantially increase the use of neighborhood or regional parks in the area such that substantial physical deterioration of the facility would occur.

a, b. Parks and Recreational Services: The proposed project does not include any increase in permanent population that would contribute to increased demand on recreation facilities or contribute to increased use of existing facilities. There would be no impact.

FINDING: No impacts to recreation would be expected for this commercial facility either directly or indirectly. For this "Recreation" category, the thresholds of significance have not been exceeded.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. *Would the project:*				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	

XVI. TRANSPORTATION/TRAFFIC. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
e. Result in inadequate emergency access?			X	
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			X	

Discussion: A substantial adverse effect on Traffic would occur if the implementation of the project would:

- Result in an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system;
- Generate traffic volumes which cause violations of adopted level of service standards (project and cumulative); or
- Result in, or worsen, Level of Service "F" traffic congestion during weekday, peak-hour periods on any highway, road, interchange or intersection in the unincorporated areas of the county as a result of a residential development project of 5 or more units.

a-b. **Traffic Increases, Levels of Service Standards:** This project lies on the south side of Green Valley Road at the south east corner of the intersection with Sophia Parkway. The project seeks encroachments onto both roads. East at Sophia Parkway, Green Valley Road has been improved to a four-lane road with curb, gutter, sidewalks and a striped median. The Mormon Island Dam, one of the dams containing Folsom Lake is directly across Green Valley Rd from the project and is currently undergoing improvements in both the El Dorado County and the City of Folsom. Once the improvements to the dam are complete, the County will coordinate the new alignment and improvements of Green Valley Road with the City of Folsom and improvements to Green Valley Road west of Sophia Parkway would be completed.

The 2004 General Plan Transportation Policies under TC-X require that that projects that "worsen" traffic by two percent, or 10 peak hour trips, or 100 average daily trips construct (or ensure funding and programming) of improvements to meet Level of Service standards in the General Plan Transportation and Circulation Element.

Green Valley Road and Sophia Parkway are County maintained roadways and adjoin the project on two sides. The project proposes two new encroachments, one each onto those roads. Access and circulation driveways have been analyzed by DOT and the El Dorado Hills Fire Department and found by both to be adequate for interior circulation as conditioned.

As required by County policy, a traffic study was prepared to analyze the potential traffic impacts resulting from the project. According to the Traffic Impact Analysis, May 23, 2013, Attachment 14; and Arco AM PM Left Turn Analysis, January 16, 2013, Attachment 15, the project would cause an increase in traffic on area roadways and intersections of approximately 1,480 daily trips on a weekday basis. After discounting passby and internally captured trips the new trips generated by this project will be 113 a.m. peak hour trips and 125 p.m. peak hour trips. The proposed project would result in less than significant impacts under both existing plus proposed project and 2017 plus proposed project conditions. These levels are less than the cumulative analysis completed by the 2004 General Plan E.I.R.

All intersections except the El Dorado Hills Blvd / Francisco Drive intersection will continue to operate at acceptable levels of service. The county has identified this intersection for improvement in their Capital Improvement Program, CIP 71358 Francisco Drive Right-Turn Pocket (design year 12/13, construction year 13/14) and CIP 72332 El Dorado Hills Boulevard/Francisco Drive Intersection Alignment which is presently unfunded but

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

included in the 20-year C.I.P. The proposed project adds 3.8 percent of the trips at the intersection. In addition, queue lengths currently exceed available lengths at Green Valley Road/El Dorado Hills Blvd. Assuming a car length of 20' per vehicle, the proposed project adds less than one car length to the queue length. The county has identified CIP GP159, Green Valley Road Widening from Salmon Falls Road to Deer Valley Road. In accordance with General Plan Policy TC-Xf, for all commercial projects that worsen traffic on the County road system, the County shall ensure the construction of the necessary road improvements are included in the County's 20-year CIP. Therefore, the payment of Traffic Impact Mitigation fees for this proposed project will be considered their fair share of the impact improvements.

DOT has determined that the project impacts would not exceed the level of service thresholds established by the General Plan with the intersection improvements identified above. Payment of the Traffic Impact Mitigation Fees provides this project's proportionate share of the funding for these improvements.

c. **Air Traffic:** The project would not result in a change in established air traffic patterns for publicly or privately operated airports or landing field in the project vicinity. No impacts would occur.

d. **Design Hazards:** The project has been designed to avoid road design features that would not increase hazards. The proposed encroachments would be designed and constructed to AASHTO, Caltrans and/or County standards in accordance with General Plan Policy TC-1a. The applicants are proposing an alternative encroachment design to Standard Plan 103-D which would include a longer taper. This design is intended to enhance safety and would not be anticipated to increase hazards. As conditioned for standard traffic safety improvements to address the left-turn improvements on Green Valley Road, impacts would be less than significant.

e. **Emergency Access:** The project was reviewed by the El Dorado Hills Fire Department for the adequacy of the interior project driveway circulation and availability of adequate emergency access in the project design. Approved fire apparatus access driveways are required to extend to within 150 feet of all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility (in accordance with the El Dorado Hills Fire Department Emergency Apparatus Access Ways Standard B-003 and (per CFC Section 503.1.1). All fire apparatus access roads are required to be an asphalt, concrete, or other approved driving surface capable of supporting the imposed load of fire apparatus weighing at least 40,000 pounds. The Fire Department has recommended conditions of approval for these requirements. As conditioned, impacts would be less than significant.

f. **Alternative Transportation:** The El Dorado County Bicycle Transportation Plan - 2010 Update shows there are existing Class 2 bike lanes located along both Silva Valley Parkway and Green Valley Road. The project would not conflict with adopted plans, polices or programs relating to alternative transportation because it provides bike racks for bicyclists. The project provides adequate pedestrian access to the existing sidewalks along the project frontage. Visitors to the Folsom Lake Recreation Area currently utilize the sides of Sophia Parkway to park their vehicles, though it is not officially designated for State Park parking. There is inherent safety issues for pedestrians and bike riders within any commercial area located on busy road. This project does not appear to create any hazards to pedestrians and bikes considered more significant than any commercially-designated parcel in the Green Valley corridor area. Impacts would be anticipated to be less than significant.

FINDING: As discussed above, traffic impacts at area intersections and roadways would be addressed with Capital Improvement Plan projects (CIP), and with DOT-required conditions of approval. As discussed above, and as conditioned, no significant traffic impacts are anticipated for the proposal. For this "Transportation/Traffic" category, the thresholds of significance will not be exceeded.

XVII. UTILITIES AND SERVICE SYSTEMS. *Would the project:*	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			X	

Discussion: A substantial adverse effect on Utilities and Service Systems would occur if the implementation of the project would:

- Breach published national, state, or local standards relating to solid waste or litter control;
- Substantially increase the demand for potable water in excess of available supplies or distribution capacity without also including provisions to adequately accommodate the increased demand, or is unable to provide an adequate on-site water supply, including treatment, storage and distribution;
- Substantially increase the demand for the public collection, treatment, and disposal of wastewater without also including provisions to adequately accommodate the increased demand, or is unable to provide for adequate on-site wastewater system; or
- Result in demand for expansion of power or telecommunications service facilities without also including provisions to adequately accommodate the increased or expanded demand.

a. **Wastewater Requirements:** As conditioned for a grading permit to incorporate Best Management Practices within the graded areas, no significant wastewater discharge would be anticipated to occur as a result from the proposed project. The project is mitigated to require compliance with the County's California Stormwater Pollution Prevention Plan issued by the State Water Resources Control Board, as well as any applicable requirements of the California Water Quality Control Board. Impacts would be less than significant.

b. **Construction of New Facilities:** The project proposes to use metered domestic water and sewer. Expansion to the existing EID system would be necessary to serve the project, but those extensions are not anticipated to result in a significant negative effect on the environment as there are existing facilities near by and the easement is located adjacent to the roadway. Impacts would be less than significant.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

c. **New Stormwater Facilities:** The site drains to the existing intermittent stream that bisect the parcel and flows in the east to west direction. The intermittent stream continues westward under Sophia Parkway through a culvert system consisting of three 48-inch-diameter reinforced concrete pipes and headwall.

The project proposes to develop approximately 1.3 acres of the site and would leave the 0.8-acre balance undisturbed. The developed site would add approximately 0.95 acre of impervious surfaces and add approximately 0.39 acre of landscaping. Stormwater runoff from the new impervious surfaces would be collected in a series of at-grade concrete swales, catch basins, underground storm detention vault, pipe conveyance system (including District approved water quality BMPs), and then discharged into the existing seasonal stream/drainage course that bisects the site.

Stormwater Pollution Control Measures: The project would be required to meet the Central Valley Regional Water Quality Control Board standards for handling construction storm water. The project would prepare a Storm Water Pollution Prevention Plan and would submit and register the project with the California Water Board electronic system. The project would obtain a WDID number and would provide the appropriate monitoring and reporting measures to comply with this requirement. The Drainage Report determined the following measures would be taken during the design and construction of the project:

General Site Design Control Measures:

Site design control measures are intended to reduce the stormwater runoff peak flows and volumes. The project utilizes site design control measures by including approximately 20 percent of the site area as landscape.

Site Design Control Measure 0-3: Minimize Impervious Areas: The site's impervious area has been minimized to the maximum extent practicable.

Site Specific Source Control Measures:

The following site-specific source control measures are intended to prevent pollutants from contacting stormwater and prevent the discharge of contaminated runoff to the storm drainage system:

a. Site Source Control Measure S-I: Storm Drain Stenciling and Signage: Storm drain message markers would be placed at all storm drain inlets within the boundary of the project.
b. Site Source Control Measure S-3: Outdoor Trash Area Design: The proposed outdoor trash area would be constructed with material base that is impervious to spills, provided with a roof to prevent contact with stormwater, and would be hydraulically isolated to drain directly into the sanitary sewer system.
c. Site Source Control Measure S-5: Outdoor Vehicle Wash Area Design: The car wash has been designed with floor materials consisting of concrete to prevent infiltration of polluted wash water, a permanent roof, and an independent and isolated drainage system that will discharge to the sanitary sewer.
d. Site Source Control Measure S-6: Fuel Dispensing Area Design: The fueling island would consist of a concrete slab and canopy with a hydraulically isolated drainage system. The drainage system is a concrete swale directing any fuel spill or stormwater runoff to a perimeter trench drain that discharges into an oil/water separator with emergency shut off valve, then drains to the sanitary sewer system.

Treatment Control Measures:

The site's treatment control measures would prevent and minimize water quality impacts from stormwater.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

a. Site Treatment Control Measure T-10: Media Filter: The project will propose a StormFilter water quality treatment facility that is appropriately sized per the El Dorado County standards.

All grading activities exceeding 250 cubic yards of graded material or grading completed for the purpose of supporting a structure must meet the provisions contained in the *County of El Dorado - Grading, Erosion, and Sediment Control Ordinance* adopted by the County of El Dorado Board of Supervisors, August 10, 2010 (Ordinance #4949). All drainage facilities would be required to be constructed in compliance with standards contained in the County of El Dorado Drainage Manual. Recommended mitigation measure **BIO-4** would require that a Water Quality Certification, Section 401 permit be obtained by the applicant from the California Central Valley Regional Water Quality Control Board for applicable project improvements prior to issuance of a grading permit. As such, impacts would be less than significant.

d. **Sufficient Water Supply:** The project proposes to use metered domestic water. An El Dorado Irrigation District Facility Improvement Letter FIL1212-023 dated December 7, 2012 was submitted for the project and is provided as Attachment 16. The FIL reported that Assessment District No. 3 (AD3) was established to provide water and sewer facilities to serve the El Dorado Hills area and that the property is in AD3 and currently has an allotment of 13 equivalent dwelling units (EDUs) of water and sewer service. As of January 1,2012, the FIL reported that there were approximately 4,752 EDUs available in the El Dorado Hills Water Supply Region. The project would require 10 EDUs of water supply.

An eight-inch water line exists in Sophia Parkway and six-inch water line is located along the eastern property line of your parcel. The El Dorado Hills Fire Department has determined that the minimum fire flow for this project is 1500 GPM for a two-how duration while maintaining a 20-psi residual pressure. According to the District's hydraulic model, the existing system can deliver the required fire flow. In order to provide this fire flow and receive service, the applicant would construct a water line extension connecting to both of the previously mentioned water lines. Impacts would be less than significant.

e. **Adequate Wastewater Capacity:** Wastewater disposal for the proposed project would be provided by public sewer. The FIL reported that there is a sewer lift station (Promontory No.3) located approximately 200 feet south of the property. There are two, six-inch gravity sewer lines located in Sophia Parkway, near the lift station. These sewer lines have adequate capacity at this time. In order to receive service from either of these lines, an extension of facilities of adequate size must be constructed. The project is subject to the Promontory Applicant Reimbursement Agreements and would be required to pay reimbursement for the cost of constructing two regional sewer trunk lines and sewer lift station. The project as proposed would require 10 EDUs of sewer service. Impacts would be less than significant.

f. **Solid Waste Disposal:** In December of 1996, direct public disposal into the Union Mine Disposal Site was discontinued and the Material Recovery Facility/Transfer Station was opened. Only certain inert waste materials (e.g., concrete, asphalt, etc.) may be dumped at the Union Mine Waste Disposal Site. All other materials that cannot be recycled are exported to the Lockwood Regional Landfill near Sparks, Nevada. In 1997, El Dorado County signed a 30-year contract with the Lockwood Landfill Facility for continued waste disposal services. The Lockwood Landfill has a remaining capacity of 43 million tons over the 655-acre site. Approximately six million tons of waste was deposited between 1979 and 1993. This equates to approximately 46,000 tons of waste per year for this period.

After July of 2006, El Dorado Disposal began distributing municipal solid waste to Forward Landfill in Stockton and Kiefer Landfill in Sacramento. Pursuant to El Dorado County Environmental Management Solid Waste Division staff, both facilities have sufficient capacity to serve the County. Recyclable materials are distributed to a facility in Benicia and green wastes are sent to a processing facility in Sacramento. Impacts would be less than significant.

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

County Ordinance No. 4319 requires that new development provide areas for adequate, accessible, and convenient storing, collecting, and loading of solid waste and recyclables. On-site solid waste collection for the proposed lots would be handled through the local waste management contractor. Adequate space would be available at the site for solid waste collection. Impacts would be less than significant.

g. **Solid Waste Requirements:** County Ordinance No. 4319 requires that new development provide areas for adequate, accessible, and convenient storing, collecting and loading of solid waste and recyclables. Onsite solid waste collection would be handled through the local waste management contractor. There is an existing dumpster on site. Impacts would be less significant.

FINDING: As conditioned, adequate water, sewer/septic system, and solid waste disposal would be available to serve the project. For this 'Utilities and Service Systems' category, impacts would be less than significant.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE. *Does the project:*				
a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?		X		
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Discussion:

a. No substantial evidence contained in the project record has been found that would indicate that this project would have the potential to significantly degrade the quality of the environment, with the exception of potential impacts on nesting raptors or other migratory birds, and wetlands. By applying Mitigation Measures Air Quality-1 to 3, BIO-1 to 4, standard conditions of approval, and with adherence to County permit requirements, this project would not have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of California history or pre-history. Any impacts from the project would be less than significant due to the design of the project and required standards that would be implemented with the grading and building permit processes and/or any required project specific improvements on or off the property.

b. Cumulative impacts are defined in Section 15355 of the California Environmental Quality Act (CEQA) Guidelines as two or more individual effects, which when considered together, would be considerable or which would compound or increase other environmental impacts.

The project would not involve development or changes in land use that would result in an excessive increase in population growth. Impacts due to increased demand for public services associated with the project would be offset

Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporation	Less Than Significant Impact	No Impact

by the payment of fees as required by service providers to extend the necessary infrastructure services. The project would not contribute substantially to increased traffic in the area and would not require a significant increase in the wastewater treatment capacity of the County.

The project would result in the generation of green house gasses, which could contribute to global climate change. However, the amount of greenhouse gases generated by the project would be negligible compared to global emissions or emissions in the county, so the project would not substantially contribute cumulatively to global climate change. Further, as discussed throughout this environmental document, as conditioned and mitigated, the project would not contribute to a substantial decline in water quality, air quality, noise, biological resources, agricultural resources, or cultural resources under cumulative conditions.

As outlined and discussed in this document, as conditioned, mitigated, and with compliance with County Codes, this project, as proposed, would have a less than significant chance of having project-related environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly. Based on the analysis in this study, it has been determined that the project would have a less than significant impact based on the issue of cumulative impacts.

c. All impacts identified in this Mitigated Negative Declaration would be either less than significant after mitigation or less than significant and do not require mitigation. Therefore, with the inclusion of Mitigation Measure NOISE-1, the proposed project would not result in environmental effects that cause substantial adverse effects on human beings either directly or indirectly. Impacts would be less than significant.

FINDINGS: It has been determined that the proposed project would not result in significant environmental impacts. The above potentially significant impacts to biological resources have been identified within this document and, when appropriate, mitigation measures have been applied which reduce these impacts to less than significant. The project would not exceed applicable environmental standards, nor significantly contribute to cumulative environmental impacts.

REVISED INITIAL STUDY ATTACHMENTS

Attachment 1 ..... Location Map
Attachment 2 ..... Clarksville U.S.G.S. 7.5 Minute Quadrangle
Attachment 3 ..... Site Plan, Sheet C2.0 of 6
Attachment 4 ..... Landscape Planting Plan, Sheet L1 of 5
Attachment 5 ..... Site Lighting Photometric (Sheet ES1.2)
Attachment 6 ..... Air Quality Analysis for Proposed Commercial Development, March 18, 2013
Attachment 7 ..... Biological Evaluation Letter Report, June 20, 2007
Attachment 8 ..... Biological and Jurisdictional Delineation Report Updates for the Green Valley Convenience Center, May 1, 2013
Attachment 9 ..... General Plan Policy 7.3.3.4 Analysis of Setback to an Unnamed Creek for the Proposed ARCO Green Valley Road at Sophia Pkwy Project, December 4, 2012
Attachment 10 ..... July 8, 2013 email from the Central Valley Regional Water Quality Control Board (two pages).
Attachment ~~10~~11 ..... Cultural Resources Assessment, Peak and Associates dated November 2012
Attachment ~~11~~ 12 ..... Greenhouse Gas Analysis for the ARCO Green Valley Road at Sophia Pkwy Project, December 4, 2012
Attachment ~~12~~ 13 ..... AQMD Rule 238, Gasoline Transfer and Dispensing
Attachment ~~13~~ 14 ..... Environmental Noise Analysis, ~~October 9, 2012~~ July 18, 2013
Attachment ~~14~~ 15 ..... Traffic Impact Analysis, May 23, 2013
Attachment ~~15~~ 16 ..... Arco AM PM Left Turn Analysis, January 16, 2013
Attachment ~~16~~ 17 ..... Preliminary Drainage Report, Updated January 31, 2013
Attachment ~~17~~ 18 ..... El Dorado Irrigation District Facility Improvement Letter FIL1212-023, December 7, 2012

SUPPORTING INFORMATION SOURCE LIST

The following documents are available at El Dorado County Planning Services in Placerville.

El Dorado County General Plan Draft Environmental Impact Report
Volume 1 of 3 – EIR Text, Chapter 1 through Section 5.6
Volume 2 of 3 – EIR Text, Section 5.7 through Chapter 9
Appendix A
Volume 3 of 3 – Technical Appendices B through H

El Dorado County General Plan – A Plan for Managed Growth and Open Roads; A Plan for Quality Neighborhoods and Traffic Relief (Adopted July 19, 2004)

Findings of Fact of the El Dorado County Board of Supervisors for the General Plan

El Dorado County Zoning Ordinance (Title 17 - County Code)

County of El Dorado Drainage Manual (Resolution No. 67-97, Adopted March 14, 1995)

County of El Dorado - Grading, Erosion, and Sediment Control Ordinance Adopted by the County of El Dorado Board of Supervisors, August 10, 2010 (Ordinance #4949).

El Dorado County Design and Improvement Standards Manual

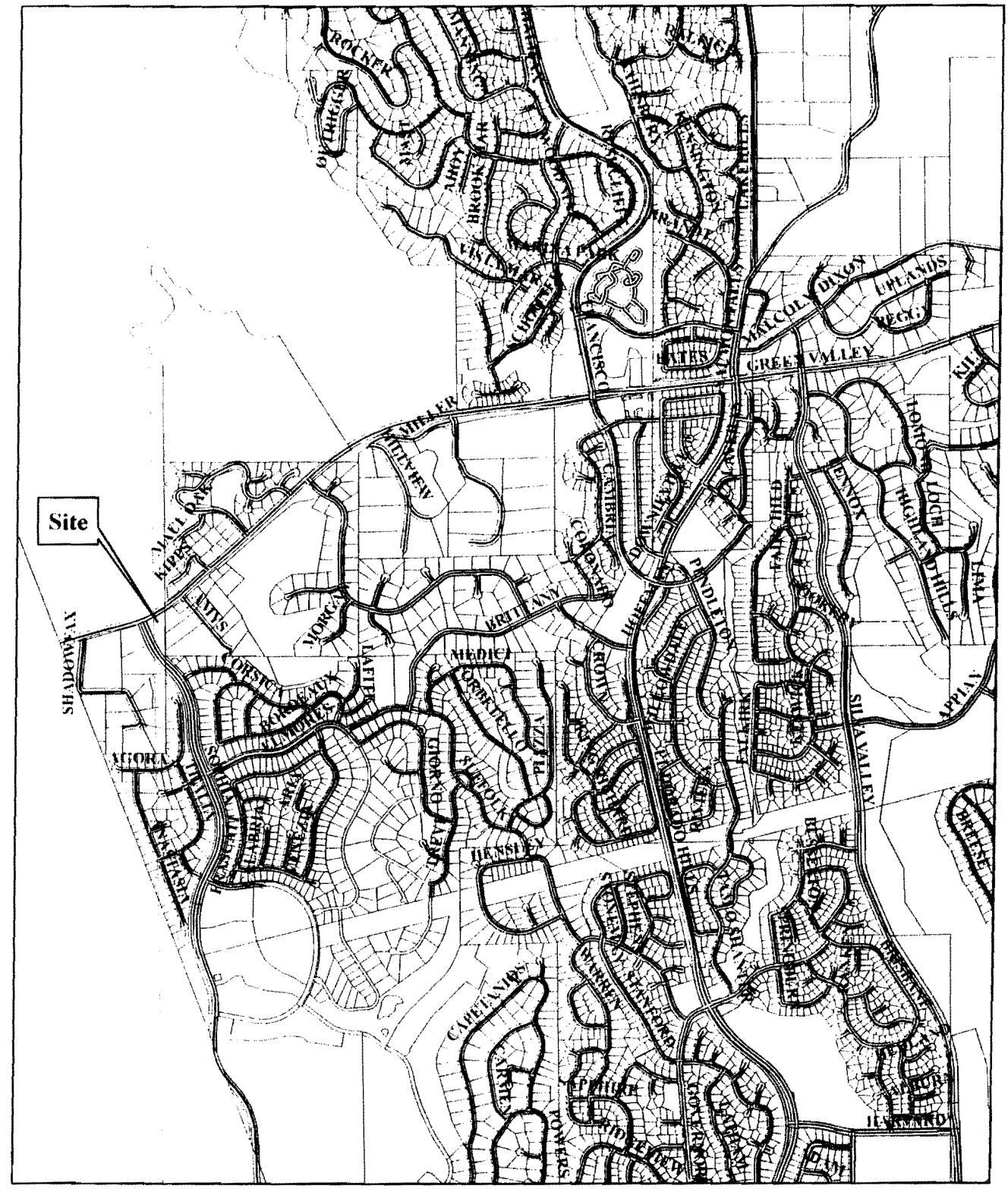
El Dorado County Subdivision Ordinances (Title 16 - County Code)

Soil Survey of El Dorado Area, California

California Environmental Quality Act (CEQA) Statutes (Public Resources Code Section 21000, et seq.)

Title 14, California Code of Regulations, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act (Section 15000, et seq.)

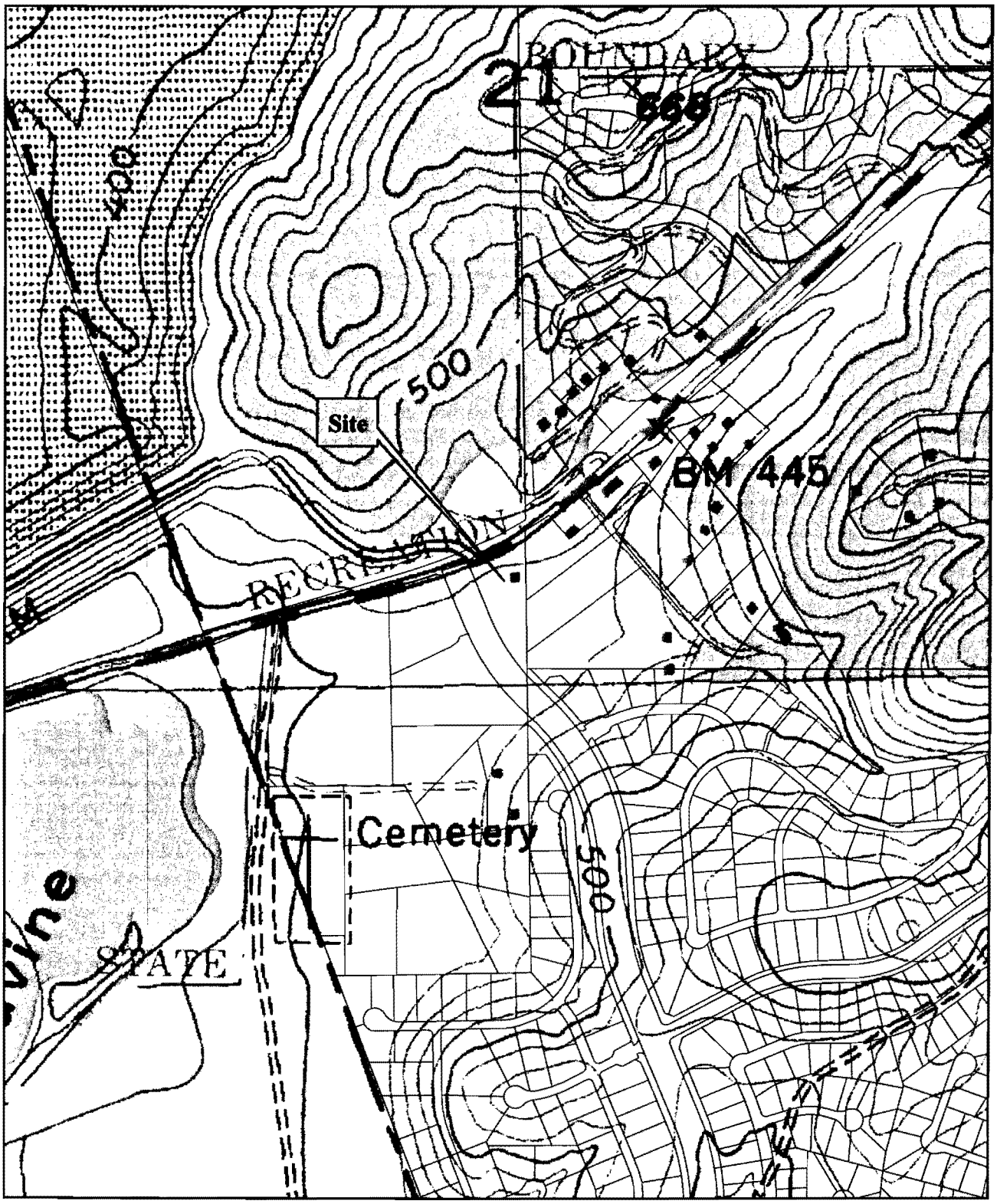
Location Map



File Number PD12-0003

Attachment 1

Clarksville U.S.G.S. Quadrangle with El Dorado County Parcels Overlayed

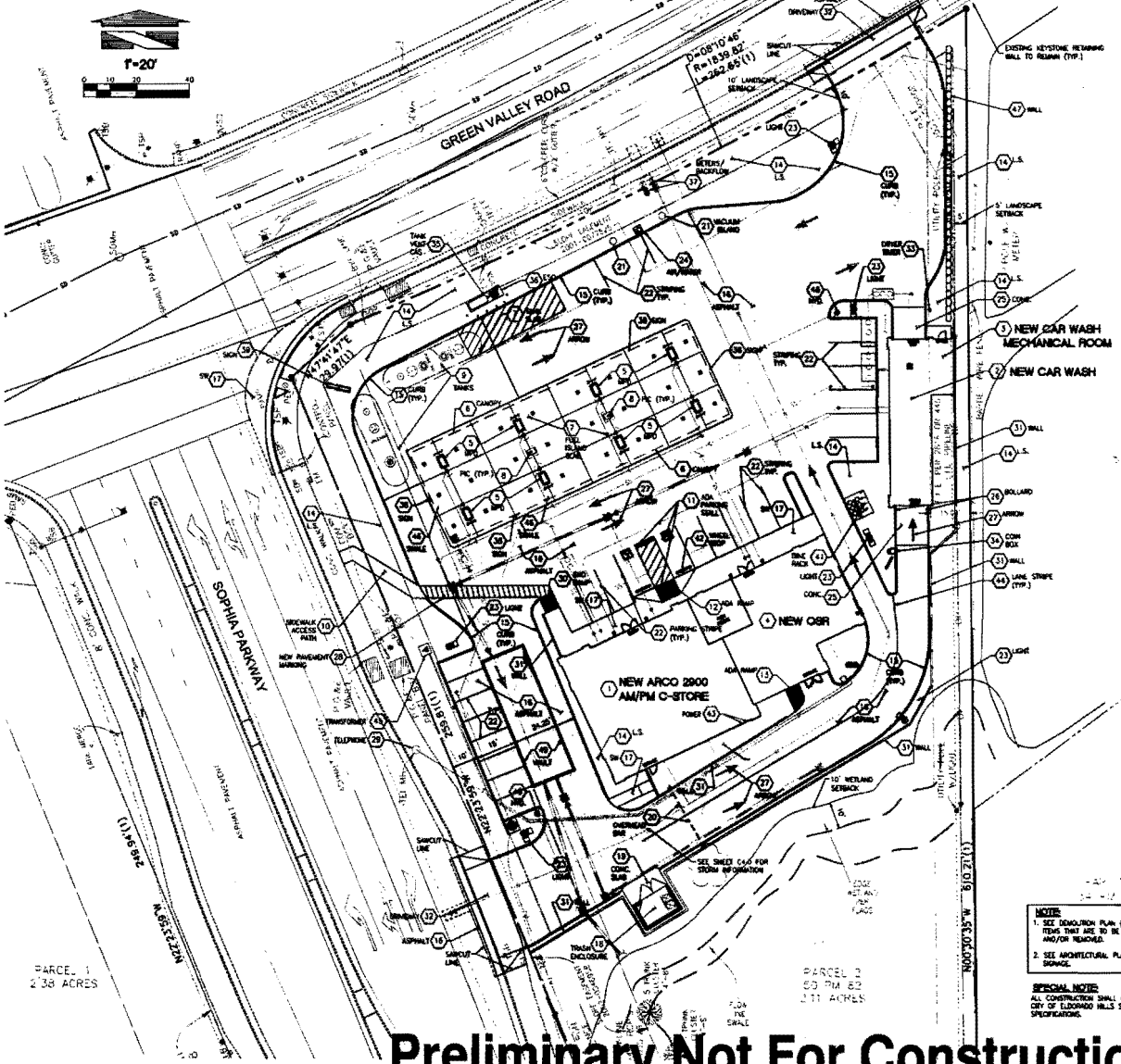


File Number PD12-0003

Attachment 2

ARCO AM/PM - ELDORADO HILLS, CALIFORNIA

SITE PLAN



Attachment 3

Preliminary Not For Construction

SITE DEVELOPMENT NOTES:

1. NEW 2900 ARCO am/pm CONVENIENCE STORE 2773 S.F. SEE ARCHITECTURAL PLANS.
2. NEW CARWASH BUILDING. 1196 S.F. SEE ARCHITECTURAL AND CAR WASH PLANS.
3. NEW MECHANICAL ROOM. SEE ARCHITECTURAL AND CAR WASH PLANS.
4. NEW RESTAURANT 2183 S.F. SEE ARCHITECTURAL PLANS.
5. NEW 8 MULTI-PRODUCT DISPENSERS (MPD'S) WITH ISLAND END BOLLARD PROTECTION. SEE TANK DRAWING FOR DESIGN.
6. NEW 36'x118' FUELING ISLAND CANOPY PER ARCHITECTURAL PLANS.
7. NEW CONCRETE FUELING ISLAND SLAB AND UNDERGROUND STORAGE TANK SLAB. A 6 INCH REINFORCED CONCRETE SLAB.
8. NEW SINGLE SIDED PAYMENT ISLAND CASHIER (PIC) UNIT ON A CONC. RAISED ISLAND.
9. NEW UNDERGROUND GASOLINE & DIESEL STORAGE TANKS.
10. NEW ACCESSIBLE PATH FROM EX. SIDEWALK ON SOPHIA PARKWAY TO STORE ENTRANCE. 4 FOOT WIDE MINIMUM 4 INCH THICK CONCRETE WALKWAY ELEVATED ABOVE PAVEMENT SURFACE. MAXIMUM 5.0% SLOPE IN THE DIRECTION OF TRAVEL. MAXIMUM 2.0% CROSS SLOPE.
11. NEW ACCESSIBLE PARKING STALL WITH VAN LOADING SPACE INCLUDING SIGNS AND PAVEMENT SYMBOLS
12. NEW ACCESSIBLE CURB RAMP. NOTE RAMP IS 8 FEET WIDE AT VAN SPACE.
13. NEW ACCESSIBLE CURB RAMP
14. LANDSCAPE PLANTING AREAS WITH IRRIGATION. SEE LANDSCAPE PLANS
15. NEW CONCRETE BARRIER CURB
16. NEW ASPHALT PAVEMENT
17. NEW MINIMUM 4 INCH THICK CONCRETE SIDEWALK. MAX. 2.0% CROSS SLOPE
18. NEW TRASH ENCLOSURE PER JURISDICTIONAL REQUIREMENTS OR PURVEYOR STANDARD. PROVIDE 6 INCH THICK REINFORCED CONCRETE APRON
19. NEW TRASH ENCLOSURE 6 INCH THICK REINFORCED CONCRETE SLAB
20. NEW OVERHEIGHT WARNING BAR/ENTRANCE SIGN BY GC
21. NEW VACUUM ISLANDS AND TRASH RECEPTACLES
22. NEW PARKING STALLS STRIPING 4 INCHES THICK PAINTED WHITE.
23. NEW LOT LIGHT.
24. NEW AIR/WATER STATION. GC TO PROVIDE CONC. PAD. WATER AND ELECTRICAL PROVISIONS.
25. NEW CONCRETE PAVEMENT
26. NEW BOLLARD
27. NEW DIRECTIONAL ARROW
28. NEW PAVEMENT MARKING USING 4 INCH THICK AND 3 FEET ON CENTER AT 45 DEGREE ANGLES AS SHOWN.
29. NEW TELEPHONE LINE PER ELDORADO COUNTY REQUIREMENTS. COORDINATE WITH LOCAL TELEPHONE COMPANY FOR INSTALLATION.
30. NEW ACCESSIBLE END RAMP
31. NEW RETAINING WALL DESIGNED BY OTHERS.
32. NEW DRIVEWAY PER ELDORADO COUNTY STDS.
33. DRYER TIMER AND PAD PER CARWASH PLANS.
34. COIN BOX AND READER BOARD PER CARWASH PLANS.
35. NEW TANK VENTS AND CLEAN AIR SEPARATOR PER TANK PLANS
36. EMERGENCY SHUTOFF SWITCH PER TANK PLANS
37. NEW WATER METERS AND BACKFLOW PREVENTORS FOR DOMESTIC AND IRRIGATION WATER SERVICE. SEE UTILITY PLAN SHEET C5.0.
38. NEW ARCO CANOPY SIGN. SIGNS UNDER SEPARATE PERMIT
39. NEW ARCO LO SIGN PER ARCHITECTURAL PLANS. SIGN UNDER SEPARATE PERMIT.
40. NEW ICE MERCHANDISER PER ARCHITECTURAL PLANS (NOT SHOWN).
41. NEW BIKE RACK PER ARCHITECTURAL PLANS.
42. NEW WHEEL STOP
43. NEW BUILDING POWER METER AND PANEL BOX LOCATION PER PG&E REQUIREMENTS. REFER TO PG&E ENGINEERING REQUIREMENTS FOR INSTALLATION REQUIRED BY GC. COORDINATE WITH PG&E FOR INSTALLATION
44. NEW 4 INCHES THICK LANE STRIPING PAINTED WHITE
45. NEW TRANSFORMER AND POWER LINE PER PG&E REQUIREMENTS. REFER TO PG&E ENGINEERING REQUIREMENTS FOR INSTALLATION REQUIRED BY GC. COORDINATE WITH PG&E FOR INSTALLATION.
46. NEW CONCRETE SWALE
47. NEW MODULAR BLOCK RETAINING WALL. DESIGN BY OTHERS.
48. NEW FIRE HYDRANT PER EL DORADO STDS
49. NEW UNDERGROUND CONCRETE STORAGE VAULT FOR DETENTION (16' WIDE X 30' LONG X 8' DEEP)

NOTE:
1. SEE DEMOLITION PLAN (C3.0) FOR EXISTING ITEMS THAT ARE TO BE DEMOLISHED, RELOCATED, AND/OR REMOVED.
2. SEE ARCHITECTURAL PLANS FOR ALL ON-SITE SIGNAGE.

SPECIAL NOTE:
ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF ELDORADO HILLS STANDARD SPECIFICATIONS.

CALL USA
UNDERGROUND SERVICE ALERT
48 HOURS PRIOR TO CONSTRUCTION
CALL TOLL FREE: 1-800-227-2600

UTILITY CONFLICT NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POTHOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE & MARK-UP AND THEN POTHOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

bp
ARCO

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING LAND PLANNING
SURVEYING ENVIRONMENTAL SERVICES

NO	DATE	REVISION DESCRIPTION
1	10/15/12	PLANNING RE-SUBMITTAL
2	12/18/12	PLANNING REVISIONS
3	1/28/13	PLANNING REVISIONS
4	4/24/13	PLANNING REVISIONS

THIS SHEET IS FOR INFORMATION ONLY

DEVELOPMENT INFORMATION:
ARCO NTI
2900 am/pm
w/ 17'x65' CAR WASH
FUEL CANOPY w/ 8 MPD's
AND 1,800 SF Q.S.R.

SITE ADDRESS:
GREEN VALLEY ROAD
@ SOPHIA PARKWAY
EL DORADO HILLS, CA

FACILITY # TBD

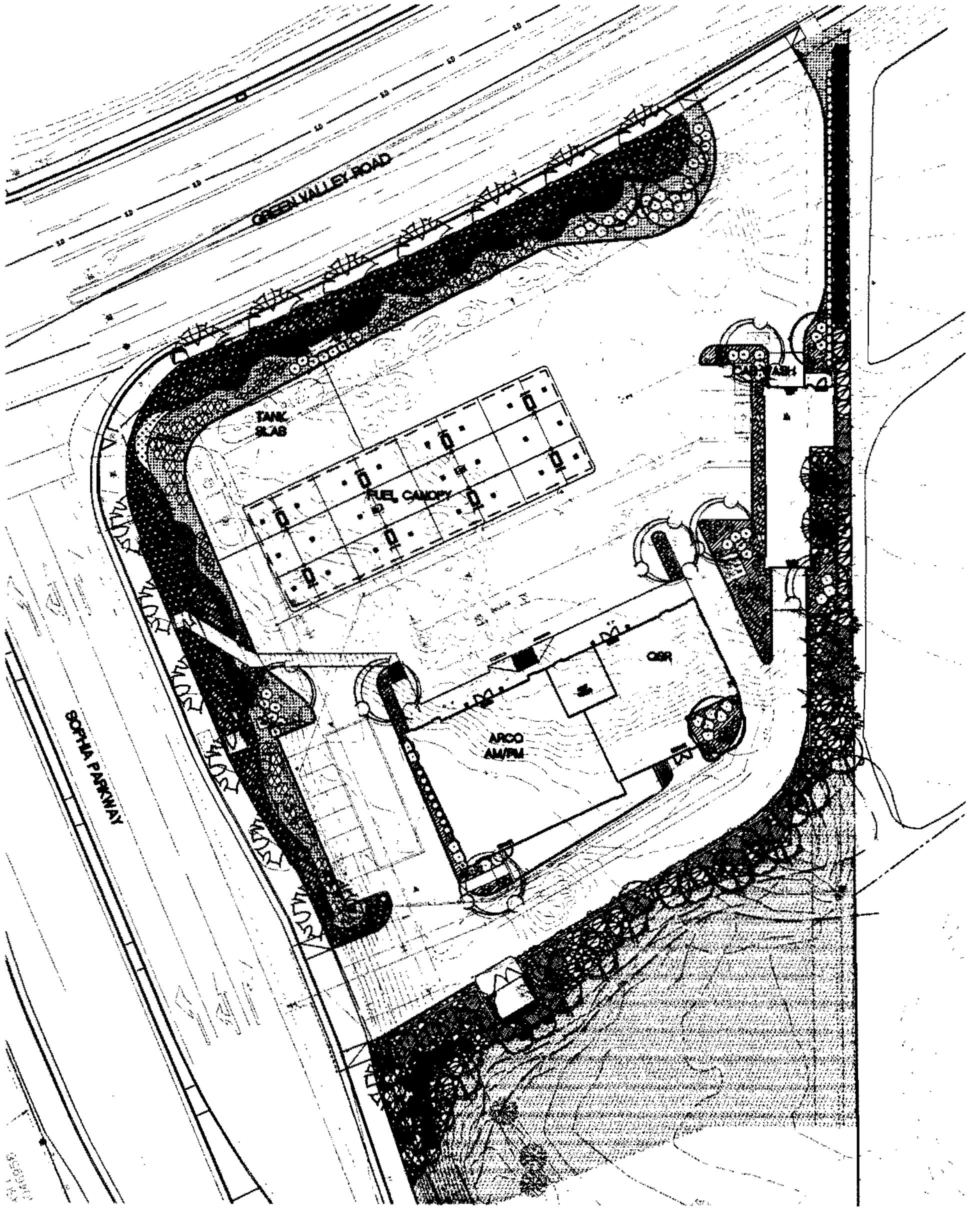
DESIGNED BY	ALLEN SMITH
DRAWN BY	BP NGHI
CHKD BY	ALLEN SMITH
VERSION	PROJECT NO. 15593

SHEET TITLE: SITE PLAN

SHEET NO: C2.0 OF 6

ARCO AM/PM - ELDORADO HILLS, CALIFORNIA
LANDSCAPE PLANTING PLAN

Attachment 4



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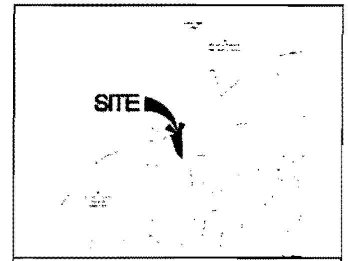


VICINITY MAP

LANDSCAPE PLANT MATERIAL LEGEND

SYMBOL	BOTANICAL / COMMON NAMES	SIZE CONDITION	SPACING	QUANTITY	REMARKS
	TREES:				
	CEDRUS DEODORA / DEODAR CEDAR	5 GALLON	AS SHOWN	5	STAKE & GUY ONE GROWING SEASON; NURSERY GROWN, UN-CUT LEADER
	LAGERSTROEMIA INDICA 'WATERMELON RED' / WATERMELON RED CRAPE MYRTLE	15 GALLON	AS SHOWN	5	STAKE & GUY ONE GROWING SEASON, NURSERY GROWN FOR STREET TREE USE, BRANCHED AT 6'
	PINUS PONDEROSA / PONDEROSA PINE	15 GALLON	AS SHOWN	3	STAKE & GUY ONE GROWING SEASON; NURSERY GROWN, UN-CUT LEADER
	QUERCUS ILEX / HOLLY OAK	5 GALLON	AS SHOWN	15	STAKE & GUY ONE GROWING SEASON, NURSERY GROWN, LOW BRANCHED
	QUERCUS ILEX / HOLLY OAK	15 GALLON	AS SHOWN	7	STAKE & GUY ONE GROWING SEASON, NURSERY GROWN FOR STREET TREE USE, BRANCHED AT 6'
	QUERCUS LOBATA / VALLEY OAK (STREET TREE)	24" BOX	30' O.C.	14	STAKE & GUY ONE GROWING SEASON; NURSERY GROWN FOR STREET TREE USE, BRANCHED AT 6'
	SALIX LASIOLEPIS / ARROYO WILLOW	5 GALLON	30' O.C.	18	STAKE & GUY ONE GROWING SEASON; NURSERY GROWN, MULTI-TRUNK
	SHRUBS:				
	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' / KARL FOERSTER REED GRASS	1 GALLON	2' O.C.	AS REQ'D	FULL
	CARISSA MACROCARPA 'TUTTLE' / COMPACT NATAL PLUM	5 GALLON	3' O.C.	6	FULL AND BUSHY
	CEANOTHUS 'SIERRA BLUE' / SIERRA BLUE CEANOTHUS	5 GALLON	5' O.C.	38	FULL AND BUSHY
	CISTUS CRISPUS 'DESCANSO' / DESCANSO ROCKROSE	1 GALLON	2.5' O.C.	188	FULL AND BUSHY
	CISTUS HYBRIDUS / WHITE ROCKROSE	5 GALLON	4' O.C.	46	FULL AND BUSHY
	DIETES IRIDIOIDES / FORTNIGHT LILY	1 GALLON	3' O.C.	82	FULL
	ESCALLONIA 'NEWPORT DWARF' / DWARF ESCALLONIA	5 GALLON	4' O.C.	34	FULL AND BUSHY
	FREMONTODENDRON 'CALIFORNIA GLORY' / CALIFORNIA GLORY FLANNEL BUSH	5 GALLON	5' O.C.	30	FULL AND BUSHY
	HETEROMELES ARBUTIFOLIA / TOYON	5 GALLON	5' O.C.	48	FULL AND BUSHY
	MAHONIA NERVOSA / LONGLEAF MAHONIA	5 GALLON	4' O.C.	5	3 CANES MINIMUM, FULL AND BUSHY
	NANDINA DOMESTICA 'COMPACTA' / COMPACT HEAVENLY BAMBOO	5 GALLON	3' O.C.	21	3 CANES MINIMUM, FULL AND BUSHY
	PHLOMIS FRUTICOSA / JERUSALEM SAGE	5 GALLON	4' O.C.	33	FULL AND BUSHY
	GROUNDCOVERS:				
	ARCTOSTAPHYLOS UVA-URSI 'POINT REYES' / POINT REYES MANZANITA	FLAT	12" O.C.	AS REQ'D	HOLD 12" FROM BORDERS, SHRUBS, AND TREES
	BACCHARIS PILULARIS 'TWIN PEAKS' / TWIN PEAKS DWARF COYOTE BRUSH	FLAT	12" O.C.	AS REQ'D	HOLD 16" FROM BORDERS, SHRUBS, AND TREES
	FRAGARIA CHILOENSIS / BEACH STRAWBERRY	FLAT	12" O.C.	AS REQ'D	HOLD 12" FROM BORDERS, SHRUBS, AND TREES
	GAZANIA MITSUWA YELLOW / YELLOW TRAILING GAZANIA	FLAT	12" O.C.	AS REQ'D	HOLD 12" FROM BORDERS, SHRUBS, AND TREES
	ROSA RED FLOWER CARPET / RED CARPET ROSE GROUNDCOVER	1 GALLON	24" O.C.	AS REQ'D	HOLD 10" FROM BORDERS, SHRUBS, AND TREES
	MULCH ONLY AREA			COVER	4" LAYER
	LINE BETWEEN GROUNDCOVER TYPES				
	EXISTING VEGETATION				TO REMAIN, SAVE, AND PROTECT

bp

ARCO

BARGHAUSEN CONSULTING ENGINEERS, INC.

18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX

CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

THIS SHEET IS FOR INFORMATION ONLY

ARCO NTI

2900 am/pm w/ 17'x65' CAR WASH FUEL CANOPY w/ 6 MPD's AND 1,900 SF Q.S.R.

GREEN VALLEY ROAD & SOPHIA PARKWAY EL DORADO HILLS, CA

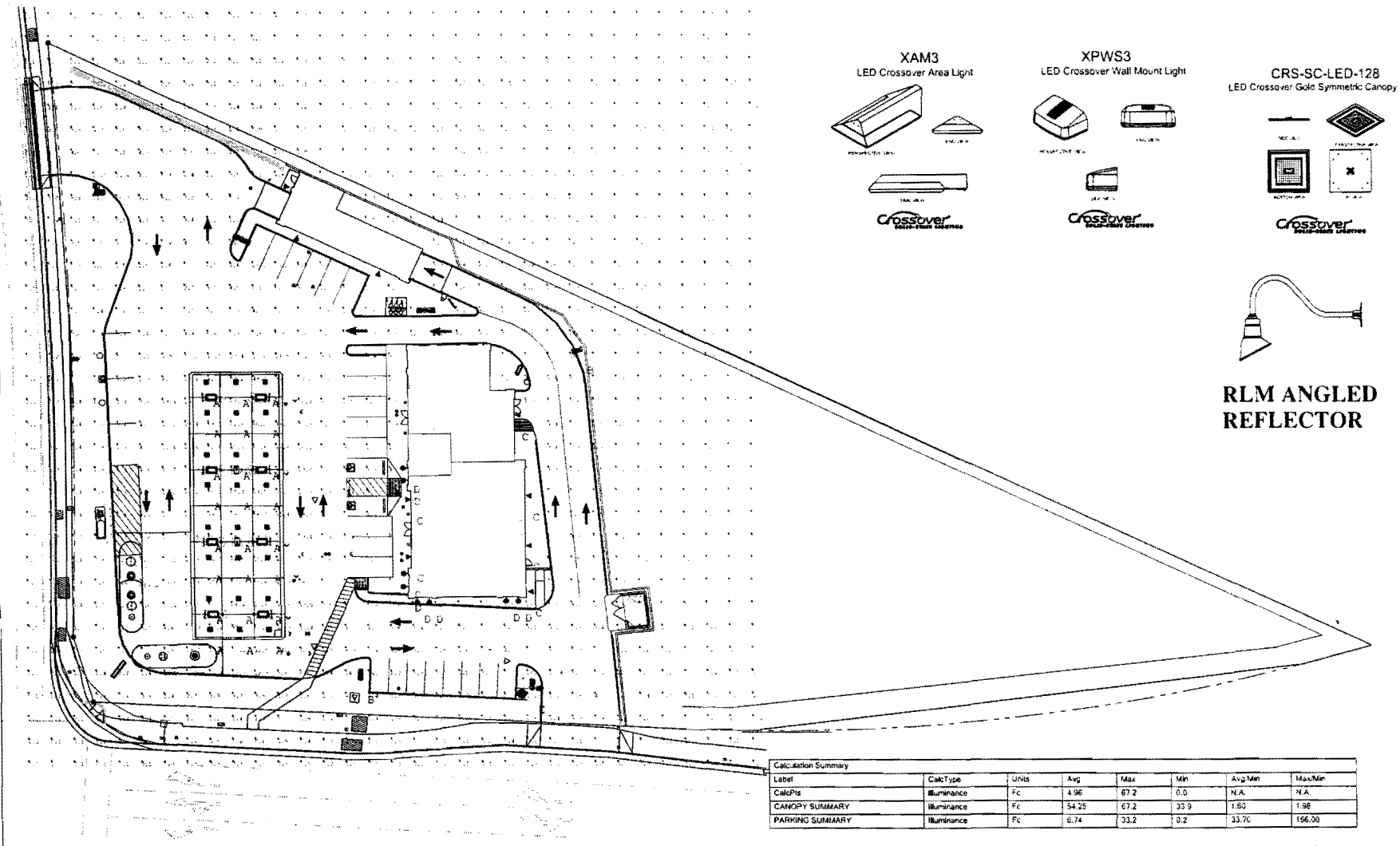
FACILITY # TBD

15593

LANDSCAPE PLANTING PLAN

L1 OF 5

Attachment 5



XAM3
LED Crossover Area Light

XPWS3
LED Crossover Wall Mount Light

CRS-SC-LED-128
LED Crossover Gold Symmetric Canopy Light

RLM ANGLED REFLECTOR

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts	Illuminance	Fc	4.96	67.2	0.0	N.A.	N.A.
CANOPY SUMMARY	Illuminance	Fc	54.25	67.2	33.9	1.60	1.98
PARKING SUMMARY	Illuminance	Fc	6.74	33.2	0.2	33.70	166.00

Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Description	LLF	Lumens/Lamp	Arr. Lum. Lumens	Arr. Watts
	24	A	SINGLE	CRS-SC-LED-128-SS-CW-UE	1.000	N.A.	16374	145
	2	B	SINGLE	XAM3-FT-LED-119-450-CW-UE-S-12' POLE+3' BASE	1.000	N.A.	12343	184
	9	C	SINGLE	XPWS3-FT-LED-48-350-CW-UE	1.000	N.A.	4024	52.8
	8	D	SINGLE	AD-150-10-CW-LED-UE-GW*-DO	1.000	N.A.	700	10
	2	E	2 @ 90 DEGREES	XAM3-FT-LED-119-450-CW-UE-090-12' POLE+ 3' BASE	1.000	N.A.	24686	368
	2			XAM3-FT-LED-119-450-CW-UE-090-12' POLE+ 3' BASE	1.000		20792	368

THIS SHEET IS FOR INFORMATION ONLY

ARCO NTI
2900 am/pm
w/ 17'x65' CAR WASH
FUEL CANOPY w/ 8 MPD's
AND 1,900 SF Q.S.R.

GREEN VALLEY ROAD
& Sophia Parkway
El Dorado Hills, CA

FACILITY # TBD

15593

SITE LIGHTING PHOTOMETRIC

ES1.2

STAFF MEMO 08-07-13
13-1347 G 74 of 333

SYCAMORE ENVIRONMENTAL CONSULTANTS, INC.
6355 Riverside Blvd., Suite C, Sacramento, CA 95831
916/ 427-0703 Fax: 916/ 427-2175

18 March 2013

Mr. Marc Strauch
Cameron Park Petroleum, Inc.
301 Natoma Street, Suite 202
Folsom, CA 95630

Phone: 916/ 257-6497

Subject: Air Quality Analysis for Proposed Commercial Development, El Dorado County, CA.

Dear Mr. Strauch:

Sycamore Environmental has evaluated potential air quality impacts resulting from a proposed commercial development on APN 124-301-46 in El Dorado County, CA. The air quality evaluation documented in this letter will provide the County with the information needed to process your application pursuant to the California Environmental Quality Act (CEQA).

The Project is located on the southeast corner of Green Valley Road and Sophia Parkway on the Clarksville USGS topographic quad, in the El Dorado Hills area. The parcel land use designation is commercial and the zone is commercial, planned development district. Based on the site plans dated 18 September 2012, the Project includes a 2,850 square foot, 8 fueling station gasoline / convenience store, a 1,972 square foot fast food restaurant with drive-through, and a one-bay 1,185 square foot carwash. The Project includes two right-in right-out driveways, one each on Green Valley Road and Sophia Parkway respectively. The project will include a new retaining structure estimated to be 10-12 feet tall with associated backfill to bring the existing grade closer to the existing elevations of Green Valley Road and Sophia Parkway. The proposed Project avoids a channel and wetland that occur on site. The Project will require an AQMD permit for gasoline storage and dispensing equipment.

Methods

The El Dorado County Guide to Air Quality Assessment (CEQA Guide; El Dorado County 2002) was used to evaluate the proposed commercial development. Other resources used in our analysis include El Dorado County Air Quality Management District (AQMD) rules for fugitive dust (Rules 223, 223-1, and 223-2); El Dorado County ordinances for projects in areas that may have naturally occurring asbestos (NOA); California Department of Mines and Geology NOA data, and U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) toxic air contaminants data. The following items are evaluated in this letter:

- Land Use Conflicts and Exposure of Sensitive Receptors
- Compliance with El Dorado County AQMD Rules and Regulations

Attachment 6

- Compliance with EPA Conformity Regulations
- Odors
- Construction Activities
- ROG and NO_x Emissions and Mitigation for Project Operation
- CO, PM10, and Other Pollutant Air Quality Impacts
- Evaluation of Toxic Air Contaminates
- Evaluation of Cumulative Impacts

Qualitative Analysis

The CEQA Guide identifies land use conflicts and exposure of sensitive receptors; compliance with El Dorado County AQMD rules and regulations; compliance with U.S. Environmental Protection Agency (EPA) Conformity regulations; and odors as topics to be addressed qualitatively. The qualitative evaluation identifies potential issues that lead to additional quantitative analysis.

Land Use Conflicts and Exposure of Sensitive Receptors

There are no existing structures on the property. The surrounding area is characterized by residential and commercial development, with undeveloped or open space parcels. Folsom Lake and the Brown's Ravine Recreation Area are north of the site on the north side of Green Valley Road and designated open space. The site is bordered on the east by an RV storage yard designated commercial, and two undeveloped parcels designated medium density residential. West of the site across Sophia Parkway is an undeveloped parcel designated commercial. Commercial development is considered compatible with the land use designations of the surrounding parcels.

The CEQA Guide identifies sensitive receptors as facilities that house or attract children, the elderly, people with illnesses or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, and convalescent facilities are examples of sensitive receptors (CEQA Guide page 3-2). The following sensitive receptors are located within 1 mile of the Project site:

Health Facilities
None within 1 mile

Senior Care Facilities
None within 1 mile

Preschools and Daycares
Lil' Scholars University Preschool (0.83 mile east)

K-12 Schools
Lakeview Elementary School (0.50 mile east)

Playgrounds & Sports Fields
Promontory Community Park (0.65 mile southeast)

The El Dorado County AQMD rules and regulations do not allow dust to leave a project site during construction. The quantitative analysis below evaluates the amount of contaminants that would be generated by the residential subdivision and recommends measures to minimize the estimated amounts. Project compliance with El Dorado County AQMD rules and regulations and with implementation of the recommendations in this report, the Project is not expected to have a significant impact on any sensitive receptors.

Compliance with El Dorado County AQMD Rules and Regulations

Figure 1.1 in the CEQA Guide identifies facilities that require permits from the El Dorado County AQMD. The Project will require an AQMD permit for gasoline storage and dispensing equipment. The following El Dorado County AQMD Rules apply during the construction of the Project:

- Rule 215 Architectural Coatings, Rule 223 Fugitive Dust – General
- Rule 223-1 Fugitive Dust – Construction
- Rule 224 – Cutback and Emulsified Asphalt

Rule 215 defines the quantities of reactive organic compounds permitted for use in new construction. Rule 223 limits manmade fugitive dust to the property line of the construction site. Rule 223-1 requires a Fugitive Dust Control Plan be prepared and submitted to the El Dorado County AQMD prior to ground disturbing activities. Rule 224 defines the types of cutback and emulsified asphalts permitted for use in El Dorado County. Pursuant to Rule 610, the El Dorado County AQMD will charge a fee to review the Fugitive Dust Control Plan required by Rule 223-1.

To ensure compliance with applicable El Dorado County AQMD rules, the bid specifications and construction contract should stipulate the following:

> The Contractor shall adhere to all applicable El Dorado County AQMD rules, including but not necessarily limited to Rules 215, 223, 223-1, and 224. Copies of these rules are available from the El Dorado County AQMD website (www.arb.ca.gov/drdb/ed/cur.htm). The Contractor shall prepare a Fugitive Dust Control Plan for review and approval by the El Dorado County Air Pollution Control Officer pursuant to Rule 223-1 – Fugitive Dust Construction.

After construction, the Project will need to comply with AQMD Rule 238 "Gasoline Transfer and Dispensing."

Compliance with U.S. EPA Conformity Regulations

Because the Project would not involve obtaining a federal permit or federal funding it is not necessary to demonstrate conformity with the State Implementation Plan for achieving and maintaining federal ambient air control standards.

Odors

The CEQA Guide describes the standard for determining whether a project would have potentially significant impacts resulting from odors (page 3-3):

> [Odors] "which cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property."

Table 3.1 in the CEQA Guide lists common types of facilities that are known to produce odors that potentially cause detriment, nuisance, or annoyance to the public. The facilities listed are limited to industrial and waste disposal type land uses. Commercial developments are not listed as odor generating facilities. The proposed commercial development would not result in significant impacts resulting from odors.

Quantitative Analysis

Construction Activities

A project's most common construction activities include site preparation, earthmoving and general construction. Site preparation includes activities such as general land clearing and grubbing. Earthmoving activities include cut and fill operations, trenching, soil compaction, and grading. General construction includes adding improvements such as roadway surfaces, structures and facilities.

The emissions generated from these common construction activities include:

- Combustion emissions (ROG, NO_x, CO, SO_x, PM10) from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips;
- Combustion emissions from heavy-duty diesel-fueled equipment contain Diesel PM, which has been identified as a potential health risk;
- Fugitive dust (PM10) from soil disturbance or demolition; and
- Evaporative emissions (ROG) from asphalt paving and architectural coating applications.

Demolition and earth disturbance may also result in airborne entrainment of asbestos, a toxic air contaminant, with regard to soil disturbance in areas where there are naturally occurring surface deposits of ultramafic rock. Potential impacts resulting from soil disturbance of NOA are discussed under the toxic air contaminants evaluation in this letter below.

The El Dorado County AQMD evaluates the significance of ROG and NO_x emissions during construction based on the maximum amount of fuel, diesel and regular gasoline that would be used on the peak equipment use day. Table 4.1 in the CEQA Guide lists the range of maximum daily fuel usage for the sum of all equipment, off-road vehicles, and auxiliary handheld equipment that can be used to ensure less than significant impacts resulting from ROG and NO_x emissions.

If all of the equipment used (vehicles and hand held) is 1995 model year or earlier the maximum daily fuel usage for a less than significant impact is 337 gallons per day (diesel and gasoline). The maximum daily fuel usage for all equipment 1996 model year or later (vehicles and handheld) for a less than significant impact is 402 gallons per day (diesel and gasoline). A linear interpolation is used between 337 and 402 gallons per day, in proportion to the distribution of equipment into the two age categories, to determine that maximum daily fuel use for the specific fleet mix; for example, a 50/50 age distribution yields allowable fuel use of (337+ ((402-337)/2) or 370 gallons per day.

Therefore, to ensure that development would result in less than significant air quality impacts during construction, the bid specifications and construction contract should stipulate the following:

Avoidance Measure 1.

On any given day during construction, the contractor shall ensure that all equipment used during that day (off-road vehicles and auxiliary handheld equipment) does not exceed the fuel usage limit (diesel and regular gasoline) established in the CEQA Guide. The maximum amount of fuel that can be used is based on the year that the equipment was built. The maximum amount of fuel that can be used in one day if all equipment used is 1995 model year or older is 337 gallons. The maximum amount of fuel that can be used in one day if all equipment used is 1996 model year or newer is 402 gallons. If a combination of 1995 and older and 1996 and newer equipment is used, then divide the number of 1996 and newer equipment by the total number of equipment used. Multiply that number by 65. Add that number to 337. The sum is the maximum number of gallons of fuel permitted for use on that day.

The equation to determine the maximum daily fuel usage is expressed:

Daily maximum fuel usage (diesel and regular gasoline) = X (65) + 337, where X equals the number of 1996 and later equipment divided by the total number of equipment used (off-road vehicles and auxiliary handheld equipment). For example, if 10 pieces of equipment are used and 3 are 1995 and older and 7 are 1996 and newer, then the ratio of newer equipment to all equipment used is 0.7 (7/10 = 0.7). The project is allowed to use a maximum total of 383 gallons of fuel on that day (0.7(65) + 337 = 383). If all the equipment is 1996 or newer, then 402 gallons is the maximum number of gallons allowed.

With implementation of this stipulation, ROG and NO_x emissions during construction on the new lots would be less than significant. The El Dorado County AQMD determined that if ROG and NO_x emissions are less than significant then exhaust emissions of CO are also deemed less than significant. With adherence to Rule 231 and implementation of the Fugitive Dust Control Plan required by Rule 231-1, PM10 emissions would have a less than significant impact on air quality during construction.

Diesel PM has been identified as a potential health risk. Limiting the amount of diesel fuel used during the course of a project reduces the potential health risks to a less than significant level. Table 4.2 in the CEQA Guide provides the maximum amount of fuel that is permitted to ensure less than significant health risks. As with the daily fuel limit described above, the maximum amount of diesel fuel allowed over the course of project construction is determined based on the year that the equipment was built. For equipment that is 1996 model year or newer, the maximum amount of diesel fuel allowed is 37,000 gallons. For equipment that is 1995 model year or older the maximum amount of diesel fuel allowed is 3,700. To ensure that the potential health risk posed by Diesel PM is reduced to less than significant, the bid specifications and construction contract should stipulate the following:

> Avoidance Measure 2.
>
> For the duration of construction, the contractor shall ensure that all diesel-powered equipment used does not exceed the diesel fuel usage limit established in the CEQA Guide. The maximum amount of diesel fuel that can be used is based on the year that the equipment was built. The maximum amount of diesel fuel that can be used during the project if all equipment used is 1995 model year or older is 3,700 gallons. The maximum amount of diesel fuel that can be used during the project if all equipment used is 1996 model year or newer is 37,000 gallons. If a combination of 1995 and older and 1996 and newer equipment is used, then divide the number of 1996 and newer equipment in the fleet by the total number of equipment in the fleet. Multiply that number by 33,300. Add that number to 3,700. The sum is the maximum number of gallons of diesel fuel use permitted.
>
> The equation to determine the maximum project diesel fuel usage is expressed:
>
> Maximum project diesel fuel usage = X (33,300) + 3,700, where X equals the number of 1996 and later equipment divided by the total number of equipment in the fleet. For example, if 10 pieces of equipment are used and 3 are 1995 and older and 7 are 1996 and newer, then the ratio of newer equipment to all equipment used is 0.7 (7/10 = 0.7). The project is allowed to use a maximum total of 27,010 gallons of fuel for the life of construction (0.7(33,300) + 3,700 = 27,010 gallons). If all the equipment is 1996 or newer, then 37,000 gallons is the maximum number of gallons of diesel fuel use allowed for the project.

The El Dorado County AQMD determined that mass emissions of PM10 do not need to be quantified and may be deemed less than significant (CEQA Guide page 4-3). Adherence to Rules 223 and 223-1 ensure that PM10 impacts would be less than significant.

ROG and NOx Emissions and Mitigation for Project Operation

The significance threshold for ROG and NO_x is 82 pounds per day for each ROG and NO_x. Table 5.2 of the CEQA Guide lists the type and size of projects that are likely to result in significant ROG and NO_x emissions. The El Dorado County AQMD recommends that projects within 10% of the values shown on Table 5.2 conduct a more in-depth analysis including computer modeling with URBEMIS7G.

The threshold for a fast food restaurant (with drive-thru) is 8,000 ft^2. The threshold for a convenience market (24 hour) with gasoline pumps is 7,600 ft^2. The proposed square footage for the fast food restaurant (with a drive-thru) component of the Project is 1,972 ft^2 and for the convenience market component of the Project is 2,850 ft^2. The Project is more than 10% below each threshold separately, and more than 10% below the lowest threshold when both components are combined. Therefore, operation of the Project does not need further analysis and would have less than significant impacts resulting from ROG and NO_x emissions.

CO, PM10, and Other Pollutant Air Quality Impacts

ROG and NO_x emissions from project operations are evaluated for significance under CEQA on a daily mass emission basis. CO, PM10, and other pollutants are evaluated for significance by comparison against the applicable national and state ambient air quality standards (AAQS). The El Dorado County AQMD considers emissions of CO, PM10, and other pollutants from project operation, which are subject to the AAQS significance criteria, significant if:

1. The project's contribution by itself would cause a violation of the AAQS; or
2. The project's contribution plus the background level would result in a violation of the AAQS, and either
    a. A sensitive receptor is located within a quarter-mile of the project, or
    b. The project's contribution exceeds five percent of the AAQS.

The El Dorado County AQMD considers development projects of the type and size that fall below the significance cut-points in Table 5.2 for ROG and NO_x also to be insignificant for CO and NO_2 emissions (CEQA Guide 6-2). Therefore, the Project would have less than significant impacts from CO and NO_2 emissions.

The El Dorado County AQMD considers PM10 and SO_2 emissions from development projects not significant if they are of the type and size below the cut-points in Table 5.2 (CEQA Guide page 6-2). Therefore, the Project would have less than significant impacts resulting from PM10 and SO_2 emissions.

The El Dorado County AQMD considers lead, sulfates, and H_2S less than significant except for industrial sources such as foundries, acid plants, and paper mills (CEQA Guide page 6-2). Therefore, no Project impact will occur resulting from lead, sulfates, and H_2S.

The El Dorado County AQMD assumes that visibility impacts from development projects in the Mountain Counties Air Basin portion of the county are not significant (CEQA Guide page 6-3). Visibility impacts are controlled through state and national regulatory programs governing vehicle emissions, and through mitigation required for ozone precursors and particulate matter for other development projects throughout the county. Therefore, the Project will not result in any significant visibility impacts.

Evaluation of Toxic Air Contaminants

Toxic air contaminants (TAC) are pollutants that pose a present or potential hazard to human health. TACs are classified as either carcinogenic or noncarcinogenic. The state and federal governments regulate TACs through statutes and regulations that require maximum or best available technologies be incorporated in the source of the pollutants in order to limit emissions. For example, dry cleaning businesses are regulated in their handling and use of perchloroethylene. The California Air Resources Board (CARB) identified asbestos, including naturally occurring asbestiforms (NOA), as a carcinogenic TAC in 1986.

The soil mapping units at the Project site are Auburn silt loam and Auburn very rocky silt loam, 2 to 30 percent slopes (NRCS 1974). Auburn series soils are underlain by metamorphic rocks. The Project site is mapped as "Areas That Probably Do Not Contain Asbestos" by Churchill et al. (2000). The Project site is not in or within 0.25 mile of a "Found area of NOA" or an area "More Likely to Contain Asbestos" (El Dorado County 2005). Therefore, an Asbestos Hazard Dust Mitigation Plan is not required. If unexpected NOA is discovered on-site during the course of construction, the El Dorado County AQMD must be notified and an Asbestos Hazard Dust Mitigation Plan must be prepared and implemented. Construction of the project will have no air quality impacts resulting from NOA

Table 7.1 of the CEQA Guide (El Dorado County 2002) lists TACs associated with common land use activities. TACs associated with gasoline filling stations include benzene, methyl-tertiary butyl ether, toluene, and xylene. Benzene is the primary TAC associated with gas stations. Gasoline vapors are released during the filling of both the stationary underground storage tanks and the transfer from those underground tanks to individual vehicles. The Project will require an El Dorado County AQMD permit for gasoline storage and dispensing equipment. The permit will require that the Project comply with El Dorado County AQMD District Rule 238 which requires all new facilities to install and maintain CARB Certified Vapor Recovery Systems.

As a potential source of TACs, a gasoline filling station is subject to the El Dorado County AQMD's toxic risk screening and risk management procedures. According to Section 7.4 of the CEQA Guide (El Dorado County 2002) the District will require a risk assessment if TACs are or will be emitted within 0.25 mile of a school or proposed school site. No schools occur within 0.25 mi of the Project site. The closest schools to the Project site are the Lil' Scholars University Preschool" (0.83 mile east) and the Lakeview Elementary School (0.50 mile east).

Based on its experience, the El Dorado County AQMD has identified screening levels in Section 7.5.3 of the CEQA Guide (El Dorado County 2002) that provide conservative indicators that a project will not result in significant emissions of TACs. These screening levels are:

- "Development projects with Diesel truck traffic less than 10 trucks/day.
- Industrial projects that result in emissions of organic gases, particulates, NOx, or oxides of sulfur (SOx) below the applicability levels specified under the Toxic Hot Spots Act (AB 2588; see Health & Safety Code sec. 44322 and the applicable CARB regulations implementing that act [see 17 CCR sec. 93300.5 and guidelines incorporated therein]).
- Construction emissions of ROG and NOx that meet the screening criteria in Section 4.2."

The proposed Project is expected to generate an average of 16 diesel truck deliveries per week, or less than three trucks per day. This is lower that the screening threshold. The proposed Project is a commercial development, consisting of a gasoline fueling station, convenience with a foot fast food restaurant, and a one-bay carwash. The proposed Project is not an 'Industrial Project'. Implementation of Avoidance Measures 1 and 2 will ensure that construction emissions of ROG and NOx meet the screening criteria in Section 4.2 of the CEQA Guide (El Dorado County 2002). The proposed Project will not result in significant emissions of TACs.

Evaluation of Cumulative Impacts

The District's primary criterion for determining whether a project has significant cumulative impacts is whether the project is consistent with an approved plan or mitigation program of District-wide or regional application in place for the pollutants emitted by the project (CEQA Guide page 8-1).

The County General Plan land use designation for the parcel is commercial and the parcel is zoned commercial. The proposed project is consistent with the County's General Plan designation and zoning. No General Plan or zone change is needed.

The Sacramento Regional Ozone Air Quality Attainment Plan (AQAP) was developed for application in the Sacramento Region, including the Mountain Counties Air Basin portion of El Dorado County, to bring the region into ROG and NO_x attainment as required by the federal and California Clean Air Acts. The AQAP assumes annual increases in air pollutant emissions resulting from regional growth. The proposed project would contribute to the annual regional increase in ROG and NO_x emissions within the parameters of the AQAP assumption. The proposed project is consistent with the Sacramento Regional Ozone AQAP for the following reasons (CEQA Guide page 8-2):

1. The proposed project does not require a change in the existing land use designation or rezone and projected emissions of ROG and NOx from the proposed project are equal to or less than the emissions anticipated for the site if developed under the existing land use designation;
2. The proposed project does not exceed the "project alone" significance criteria;
3. The Applicant is including applicable emission reduction measures; and
4. The bid specifications and contract will stipulate that the contractor shall comply with all applicable district rules and regulations during construction of the project.

Therefore, contribution of ROG and NO_x to this regional cumulative impact is evaluated as not considerable.

CO is an attainment pollutant in El Dorado County, and local CO concentrations are expected to decline even further in the future as more stringent CO standards for motor vehicles take effect (CEQA Guide page 8-2). The District does not consider CO to be an area-wide or regional pollutant that is likely to have cumulative effects (*ibid.*). Emissions from the proposed project are less than significant. The El Dorado County AQMD considers contributions of CO from projects with less than significant ROG and NO_x emissions to be less than considerable.

The Mountain Counties portion of the county is nonattainment for the state 24-hour PM10 standard, which dictates the use of a relatively sensitive criterion for identifying cumulative affects on PM10 ambient concentrations. PM10 directly emitted from a project can have area-wide impacts and can be cumulatively significant even if not significant on a project-alone basis (CEQA Guide page 8-3). The County is in attainment for the SO_2 and NO_2 ambient air quality standards, but SO_2 and NO_2 can also contribute to area-wide PM10 impacts through their transformation into sulfate and nitrate particulate aerosols (CEQA Guide page 8-3). Project contribution of PM10, SO_2, and NO_2 are not evaluated as considerable for the following reasons (CEQA Guide page 8-3):

1. The Project would not exceed the "project alone" significance criteria for these pollutants;

2. The bid specifications and contract will stipulate that the contractor shall comply with all applicable district rules and regulations during construction of the project; and

3. Emissions from the Project would not be cumulatively significant for ROG, NO_x, or CO based on the criteria set forth above.

TACs are typically localized and do not occur region-wide. Therefore, the El Dorado County AQMD considers a project contribution of TAC emissions cumulatively significant if large development projects occur on contiguous parcels and each one is emitting TAC (CEQA Guide 8-4). The proposed project is not considered large, is not contiguous to another large development project, and NOA does not occur on-site. If NOA was discovered on-site, implementation of an El Dorado County Environmental Management- and AMQD-approved Asbestos Hazard Mitigation Plan would ensure that asbestiform dust is entrained on-site. Therefore, the project would not have a cumulatively considerable impact resulting from emissions of TACs.

Conclusions

The quantitative analysis included an evaluation of ROG, NO_x CO, PM10, and other pollutants including TAC. The emissions were evaluated for the construction and operation of the proposed Project.

- With implementation of Avoidance Measure 1, impacts resulting from ROG, NO_x, and CO would be less than significant.
- With implementation of Avoidance Measure 2, impacts resulting from diesel PM would be less than significant.
- Compliance with El Dorado County AQMD Rules 223 and 223-1, including the preparation and implementation of a Fugitive Dust Control Plan, will ensure impacts resulting from PM10 emissions would be less than significant.
- NOA is not believed to occur on-site.
- The proposed Project will not result in significant emissions of TACs.
- Emissions contributed by the proposed Project are evaluated as less than considerable to cumulative air quality conditions.

If you have any questions, please call me.

Cordially,

Jeffery Little
Vice President

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20 June 2007

Mr. Sammy Cemo
CEMO Commercial, Inc.
1107 Investment Blvd., Suite 150
El Dorado Hills, CA 95762

SUBJECT: Biological Evaluation Letter Report for Kniesel Property at Green Valley Road and Sophia Parkway (APN 067-260-98)

Dear Mr. Cemo:

Sycamore Environmental Consultants, Inc. (Sycamore Environmental) conducted a biological evaluation of the Kniesel Property at Green Valley Road and Sophia Parkway (APN 067-260-98) in El Dorado County, CA (Attachment A). Sycamore Environmental biologists conducted surveys of the project study area (PSA) in 2005, 2006, and 2007. This letter documents the results of the general biological survey.

METHODS

Study methods included conducting field surveys; obtaining and analyzing data from state and federal agencies; and reviewing maps, aerial photographs, and published and unpublished literature. An evaluation of biological resources was conducted to determine if any state- or federal-listed special-status plant or wildlife species or their habitat occurs in the PSA.

Literature Search

A search of the California Natural Diversity Database (CNDDB, database release date 3 February 2007) was conducted for the Clarksville and eight adjacent quads to determine if known records of federal- or state-listed species occur in, or near the PSA (Attachment B). Sycamore Environmental also obtained an online list from the U.S. Fish and Wildlife Service (USFWS), Sacramento Field Office that identifies special-status species that potentially occur in or could be affected by projects on the Clarksville USGS quad. The list, dated 12 April 2007, is in Attachment B. Prior to the general biological survey the CNDDB and USFWS lists were reviewed to determine special-status species that could potentially occur in the PSA.

Information on the biology, distribution, taxonomy, legal status, and other aspects of the special-status species was obtained from documents on file in the library of Sycamore Environmental. Standard references used for the biology and taxonomy of plants included Abrams (1923-1960); California Native Plant Society (2006); California Department of Fish and Game (2003, 2006b, d); Hickman, ed. (1993); Mason (1957); Munz (1959); and Sawyer and Keeler-Wolf (1995). Standard references used for the biology and taxonomy of wildlife included Behler and King (1979); California Department of Fish and Game (2006a, c); Ehrlich et al. (1988); Jameson and Peeters (1988); Jennings and Hayes (1994); Mayer and Laudenslayer, eds. (1988); McGinnis (1984); Peterson (1990); Sibley (2000); Stebbins (2003); Udvardy (1977); Verner and Boss (1980); Whitaker (1980); and Zeiner et al. (1988; 1990a, b).

Attachment 7

Mapping
Biological features observed in the PSA by Sycamore Environmental were mapped using a Trimble Pro XR™ sub-meter accurate GPS. The 1 May 2006 aerial photo in Figures 2 and 3 was downloaded from GlobeXplorer®. The GPS data were exported to AutoCAD® and placed on the aerial photo. The aerial photo was used in part to map the biological communities in the PSA.

Survey Dates and Personnel
General biological surveys were conducted by Todd Wong and Stephen Stringer on 5 August 2005. An additional site visit was conducted by Adam Forbes, M.S. on 22 March 2007.

ENVIRONMENTAL SETTING

The ± 8.10 ac PSA is composed of APN 067-260-98 and is located southeast and southwest of the intersection of Green Valley Road and Sophia Parkway in El Dorado County, CA. The PSA occurs on the Clarksville USGS topographic quad (T10N, R8E, Section 21; Figure 1). Elevation in the PSA ranges from approximately 400 to 435 ft above sea level. Land use surrounding the PSA includes commercial, residential, transportation, and agricultural.

Sophia Parkway divides the PSA into two discontinuous pieces (Attachment A; Figure 2). The larger portion of the PSA is located west of Sophia Parkway and consists of approximately 5.98 ac. The smaller portion of the PSA on the east side of Sophia Parkway consists of approximately 2.12 ac.

Existing Level of Disturbance
A review of aerial images indicates that the portion of Sophia Parkway that traverses the PSA was constructed between 2000 and 2004. Aerial images also indicate that the portion of Green Valley Road immediately north of the PSA was widened between 2002 and 2004. Widening of Green Valley Road and the construction of Sophia Parkway caused significant soils disturbance in the PSA. Spoils material covers approximately two - thirds of the western portion of the PSA north of Channel 1. Spoils material covers approximately two - thirds of the eastern portion of the PSA. A review of the available aerial photography indicates that the areas covered with spoils were used as staging/ stockpile sites during the widening of Green Valley Road and construction of Sophia Parkway. Extensive grading, associated with agricultural activities, has occurred south of Channel 1 in the western portion of the PSA. Several dirt roads occur in the western portion of the PSA.

Biological Communities
Biological communities are defined by species composition and relative abundance. Biological communities described below correlate where applicable with the list of California terrestrial natural communities recognized by the California Natural Diversity Database (DFG 2003) and the El Dorado County General Plan EIR (2004). Biological communities and other features are mapped on Figure 3 in Attachment A; their acreages are in Table 1. A list of plant and wildlife species observed is in Appendix C. Photos of the PSA are in Appendix E.

Table 1. Biological communities.

Biological Community	DFG Code [1]	El Dorado County Major Habitat Type [2]	Acreage [3] (ac)
California Annual Grassland	42.040.00	Annual Grassland	7.38
Riparian Corridor	--	--	0.40
Channel and Seasonal Wetlands	--	--	0.32
		Total:	**8.10**

[1] DFG 2003
[2] El Dorado County 2004
[3] Acreages were calculated using AutoCAD® functions.

California Annual Grassland: This community consists of nonnative grasses forbs and occurs throughout the majority of the PSA. Species present include medusa head (*Taeniatherum caput-medusae*), Italian ryegrass (*Lolium multiflorum*), ripgut grass (*Bromus diandrus*), wild oat (*Avena fatua*), field bindweed (*Convolvulus arvensis*), *Erodium* sp., goose grass (*Galium aparine*) and Italian thistle (*Carduus pycnocephalus*). This community lacks a distinct tree or shrub layer. During the August 2005 general biological survey a 0.81-ac section of the western portion of the PSA was being used for the production of strawberries (*Fragaria* sp.). During the March 2007 site visit the 0.81-ac area was fallow and ruderal vegetation had colonized the area.

Riparian Corridor: A narrow strip of relatively young riparian vegetation occurs adjacent to channel 1 in the western portion of the PSA. The dominant tree species is Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). Other tree species present include Goodding's black willow (*Salix gooddingii*), narrow-leaved willow (*Salix exigua*), and Valley oak (*Quercus lobata*). Shrub species present include Himalayan blackberry (*Rubus discolor*) and willow (*Salix* sp.). The herbaceous layer includes dallis grass (*Paspalum dilatatum*), Italian ryegrass, medusa head, curly dock (*Rumex crispus*), nutsedge (*Cyperus* sp.), and fireweed (*Epilobium* sp.). No distinct continuous riparian corridor was observed upstream or downstream of the PSA.

Channel and Seasonal Wetlands: One intermittent channel (CH 1) and two seasonal wetlands (SW1 and SW2) occur in the PSA. Common species present in the seasonal wetlands in the PSA include curly dock, pennyroyal (*Mentha pulegium*), Italian ryegrass, Baltic rush (*Juncus balticus*), dallis grass, nutsedge and *Eleocharis* sp. Small amounts of narrow-leaved cattail (*Typha angustifolia*) occur at either end of the culvert that conveys CH 1 under Sophia Parkway. CH 1 and the two seasonal wetlands in the PSA are discussed further in the Preliminary Jurisdictional Delineation Report (Sycamore Environmental 2007).

RESULTS

Special-status Species Potentially Occurring in the PSA

File data from USFWS, CNDDB, and field surveys were used to determine the species that could occur in the PSA. A CNDDB summary report for Clarksville and the 8 surrounding USGS quads is in Appendix A. The USFWS list of special-status species that could occur in or be affected by the project is in Appendix B. Field surveys were conducted to determine if habitat for special-status species identified in the file data is present in the PSA. Special-status species for which suitable habitat is present in the PSA are listed in Table 2. Vernal pool fairy shrimp and vernal pool tadpole shrimp are evaluated due to the proximity of a CNDDB/ RareFind record to the PSA.

Table 2. Special-status species for which suitable habitat occurs in the PSA.

Special-Status Species	Common Name	Federal Status [a, b]	State Status [a, b]	Source [c]	Habitat Present? / Species Observed?
Invertebrates					
Branchinecta lynchi	Vernal pool fairy shrimp	T/ --	--/ --	1, 2	No/ No
Lepidurus packardi	Vernal pool tadpole shrimp	E/ --	--/ --	1, 2	No/ No
Reptiles					
Clemmys marmorata marmorata	Northwestern pond turtle	--/ --	CSC	2	No/ No
Birds					
Elanus leucurus	White-tailed kite	--/ --	SC/ FP	2, 3	Yes/ No
Migratory Birds & Birds of Prey	--	--	--	3	Yes/ Yes
Plants			**/CNPS List**		
Clarkia biloba ssp. *brandegeae*	Brandegee's clarkia	--	--/ 1B.2	2	Yes/ No

[a] **Listing Status** Federal status determined from USFWS letter. State status determined from DFG (2006c, d). Codes used in table are: **E** = Endangered; **T** = Threatened; **P** = Proposed; **C** = Candidate; **R** = California Rare; ***** = Possibly extinct.

[b] **Other Codes** Other codes determined from USFWS letter; DFG (2006a, b); and CNPS (2006). Codes used in table are as follows:
CSC = DFG Species of Special Concern; **FP** = DFG Fully Protected; **Prot** = DFG Protected
CNPS List (plants only): **1B** = Rare or Endangered (R/E) in CA and elsewhere; **2** = R/E in CA and more common elsewhere; **3** = Need more information
CNPS List Decimal Extensions: **.1** = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); **.2** = Fairly endangered in California (20-80% occurrences threatened); **.3** = Not very endangered in California (<20% of occurrences threatened or no current threats known).

[c] **Sources** **1** = From USFWS letter. **2** = From CNDDB. **3** = Observed by Sycamore Environmental Consultants, Inc.

Vernal pool fairy shrimp (VPFS; *Branchinecta lynchi*); Vernal pool tadpole shrimp (VPTS; *Lepidurus packardi*)

HABITAT AND BIOLOGY: These species inhabit vernal pools and associated wetland habitats. VPFS occur in grassy (occasionally mud-bottomed), swale, earth slump, or basalt-flow depression pools in unplowed grasslands. VPTS occur in a variety of vernal pool habitats.

RANGE: California Central Valley, coastal mountains, and foothills.

CNDDB/ RAREFIND RECORDS: There is one record for VPFS from 1989 that covers sections 28 and 21 of the Clarksville quad. The record states that Sugnet & Associates (Record Nos. 83 and 84) observed VPFS in 1 natural pool and 2 manmade pools located east of Blue Ravine Road and southeast of the Mormon Island Dam. There are a total of 7 records for this VPFS within 10 miles of the PSA. The closest record for VPTS is from 1997 and is 5.8 mi southwest of the PSA in a natural stockpond. There are a total of 3 records of VPTS within 10 miles of the PSA.

HABITAT PRESENT IN THE PSA: The seasonal wetlands (SW) in the PSA do not provide habitat for these species. VPFS and VPTS occur primarily in vernal pools and also in seasonal wetland habitats with characteristic vernal pool hydrology and plant species composition. The SW's in the PSA are densely vegetated with ruderal hydrophytic species including curly dock, pennyroyal, *Lolium multiflorum*, nutsedge and *Eleocharis* sp. VPFS and VPTS typically inhabit closed depression wetland such as venal pools. The seasonal wetlands in the PSA are not closed depressions. Hydrology for SW 1 is provided by overland flow from an off-site source and drains to can adjacent intermittent channel. Hydrology for SW 2 is provided by overflow from the intermittent channel in

the PSA. The seasonal wetlands in the PSA do not have characteristic vernal pool hydrology or vegetation and do not provide suitable habitat for VPFS and VPTS.
DISCUSSION: The PSA does not provide suitable habitat for these species.

Northwestern pond turtle (*Clemmys marmorata marmorata*)
HABITAT AND BIOLOGY: The western pond turtle prefers aquatic habitats with abundant vegetative cover and exposed basking sites such as logs. Their color may appear olive, dark brown or black with darker spots or dashes. Western pond turtles may live 30-40 years and attain a shell length of seven inches. They may take up to eight years to reach sexual maturity. Mating occurs in April or May, after which females build nests along wetland margins or in adjacent uplands. The female will travel over 400 meters to find suitable nest sites in upland areas with southern exposure away from flood-prone areas. In late spring, one to 13 eggs are laid in a shallow hole at least 10 cm deep and covered with organic, silty soil. Hatchlings emerge in approximately 12 weeks. They are associated with permanent or nearly permanent water in a wide variety of habitat types, normally in ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams. Hatchlings may be subject to rapid death by desiccation if exposed to hot, dry conditions (Zeiner et al. 1988). They are omnivorous generalists and opportunistic predators whose prey includes small insects, aquatic invertebrates, fish, frogs, snakes, and small mammals. They also eat aquatic plant material (Stebbins 1985) and carrion (observations by Sycamore Environmental).
RANGE: Throughout northern CA west of the Sierra Nevada (Stebbins 1985).
CNDDB/ RAREFIND RECORDS: There is one record for this species on the Clarksville quad. The record is located approximately 5 mi southeast of the PSA. The record is from 1988 and is located south-southwest of Clarksville approximately 1.4 mi south of Highway 50 at Carson Creek and Latrobe Road.
HABITAT PRESENT IN THE PSA? Marginal. This species typically inhabits perennial waters, but may use intermittent waters as dispersal corridors. A review of the quad map, NWI map, and aerial photo indicates there are no perennial ponds upstream of the PSA for northwestern pond turtle to disperse to. It is possible, although unlikely, that northwestern pond turtle could use the channel in the PSA as a dispersal corridor.
DISCUSSION: Northwestern pond turtle was not observed in the PSA during the general biological survey or any of the subsequent site visits.

White-tailed kite (*Elanus leucurus*)
HABITAT AND BIOLOGY: White-tailed kite feeds on small diurnal mammals, birds, insects, reptiles, and amphibians in open grasslands, wetlands, and farmlands. White-tailed kite nest in trees near foraging areas. Nests are usually constructed 20-100 ft above ground. It is a yearlong resident of CA. It breeds from February to October (Zeiner et al. 1990a).
RANGE: White-tailed kites inhabit most open habitats in coastal and valley lowlands in CA (Zeiner et al. 1990a).
CNDDB/ RAREFIND RECORDS: The closest record for white-tailed kite is 5.2 mi southwest of the PSA from 1989. The record is for 2 adults and 3 juveniles. There are 5 additional records for white-tailed kite within 10 miles of the PSA.
HABITAT PRESENT IN THE PSA? Yes the PSA provides potential habitat for this species.
DISCUSSION: White-tailed kite was not observed in the PSA.

Migratory Birds and Birds of Prey
HABITAT PRESENT IN THE PSA: Trees and shrubs in the PSA provide nesting and foraging habitat for birds of prey and other migratory birds.
DISCUSSION: No nests were observed in the PSA. Birds of prey observed in or soaring above the PSA include red-tailed hawk (Buteo jamaicensis). Several migratory bird species were observed in or

soaring above the PSA. Fish and Game Code 3503.5 protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). Migratory birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). All migratory bird species are protected by the MBTA.

Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*)
HABITAT AND BIOLOGY: Annual herb often found in roadcuts in chaparral and cismontane woodland. Blooms May through July.
RANGE: Found in Butte, El Dorado, Nevada, Placer and Yuba Counties from 968-2,903 ft in elevation.
CNDDB/ RAREFIND RECORDS: The closest record is from 2003 and is 1.4 mi northeast of the PSA on the Clarksville quad. The record is located northeast of the intersection of Green Valley Road and Francisco Road, south of Center Drive in El Dorado Hills. A total of 500 plants were observed in 2003.
HABITAT PRESENT IN THE PSA? Yes habitat for this species occurs in the PSA.
DISCUSSION: Although the PSA is outside of the typical elevational range of this species there is the potential for it to occur. A botanical survey during the evident and identifiable period would be needed to determine the presence of absence of this species.

Special-status Species Not in the PSA:
Valley elderberry longhorn beetle (VELB) requires an elderberry shrub (*Sambucus mexicana* or *Sambucus racemosa* var. *microbotrys*) as a host plant. Elderberry shrubs provide breeding and foraging habitat for VELB, a federal-listed threatened species (USFWS 1999). Elderberry shrubs were not observed in the PSA. There is no habitat for VELB in the PSA.

Pine Hill plants require rescue or other gabbrodiorite derived soils. Sycamore Environmental reviewed the Soil Survey of El Dorado Area, CA (SCS 1974). There are no rescue or other gabbrodiorite derived soils in the PSA and therefore no potential for these plants to occur in the PSA.

Special-status species for which habitat is not present, or whose distributional limits preclude the possibility of their occurrence in the PSA, are not discussed further in this report.

CONCLUSION

The PSA does not provide suitable habitat for vernal pool crustaceans. The seasonal wetlands in the PSA are densely vegetated and lack suitable hydrology. Suitable nest trees occur in the PSA for white-tailed kite, other raptors, and migratory birds. A botanical survey conducted during the evident and identifiable period of Brandegee's clarkia would be needed to determine presence or absence.

Please call if you have any questions.

Yours truly,

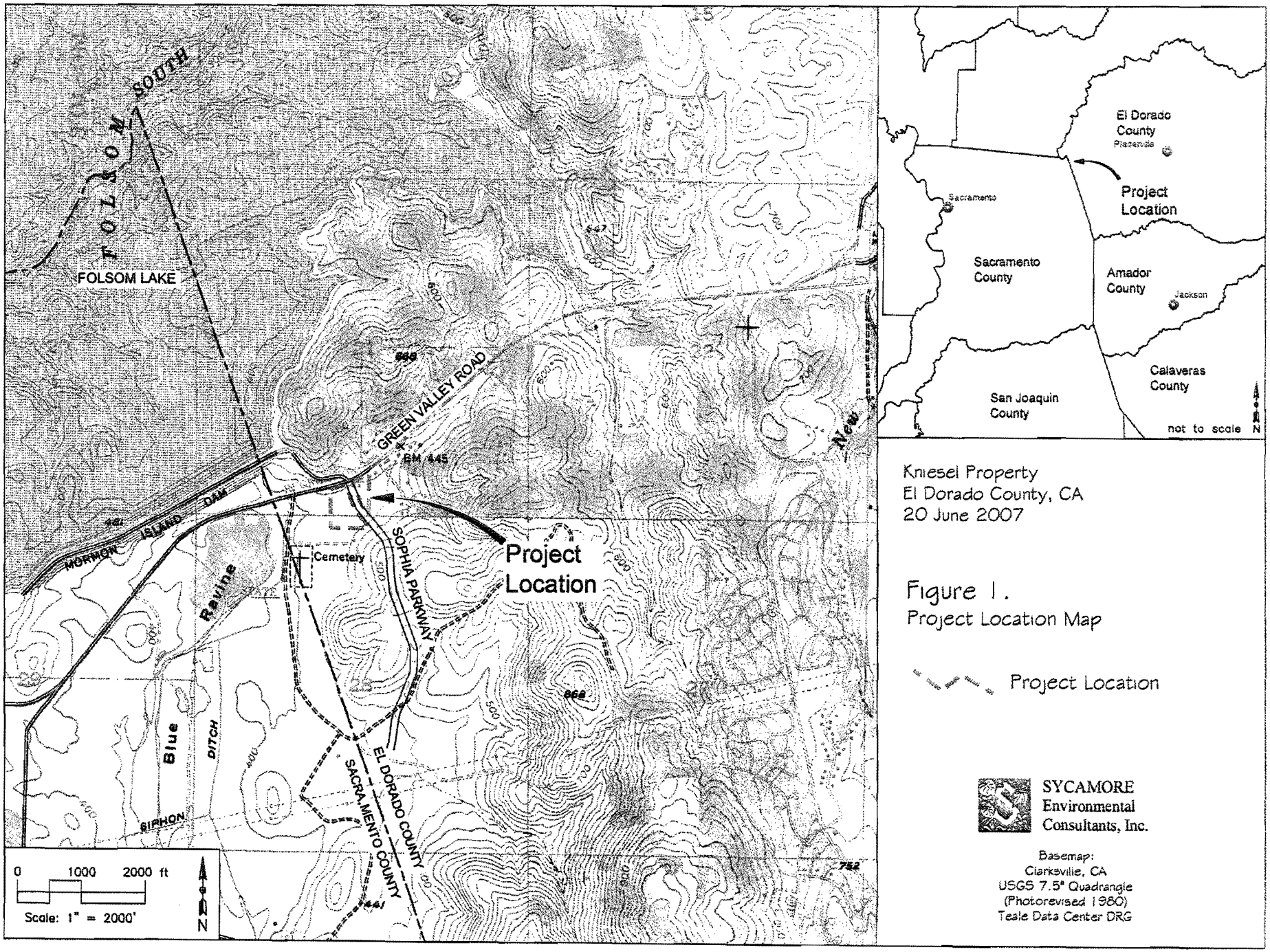
Jeffery Little
Vice President

Attachment A:	Figure 1. Project Location Map
	Figure 2. Aerial Photograph
	Figure 3. Biological Resources Map
Attachment B:	CNDDB Summary Report & USFWS Letter
Attachment C:	Plant and Wildlife Species Observed
Attachment D:	Photographs
Attachment E:	Literature Cited and Personal Communications

Attachment A

Figure 1. Project Location Map
Figure 2. Aerial Photograph
Figure 3. Biological Resources Map

Kniesel Property
(APN 067-260-98)



Kniesel Property
El Dorado County, CA
20 June 2007

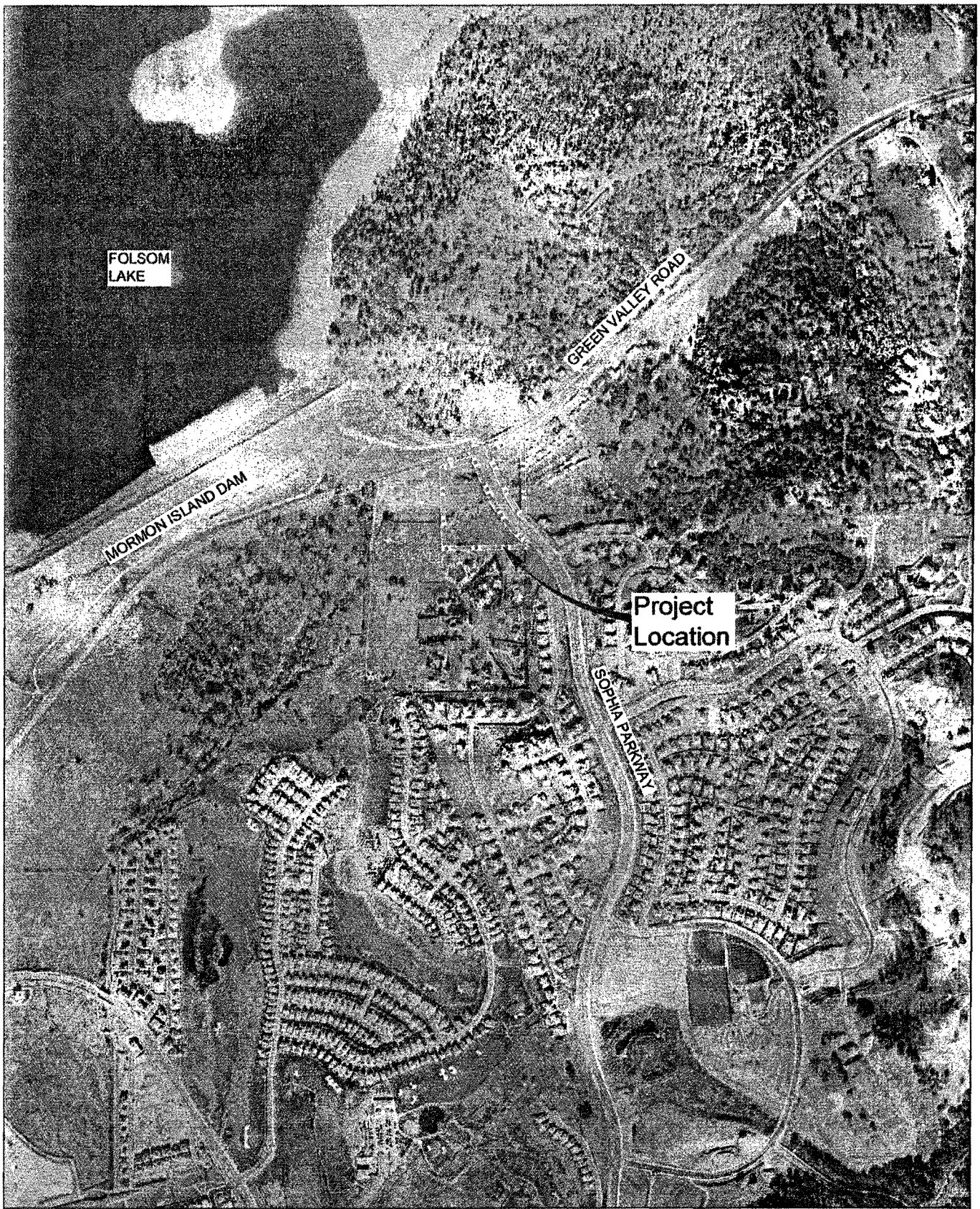
Figure 1.
Project Location Map

Project Location

SYCAMORE
Environmental
Consultants, Inc.

Basemap:
Clarksville, CA
USGS 7.5' Quadrangle
(Photorevised 1980)
Teale Data Center DRG

05086_Fig1_Location.dwg



Kniesel Property
El Dorado County, CA
20 June 2007

Figure 2.
Aerial Photograph

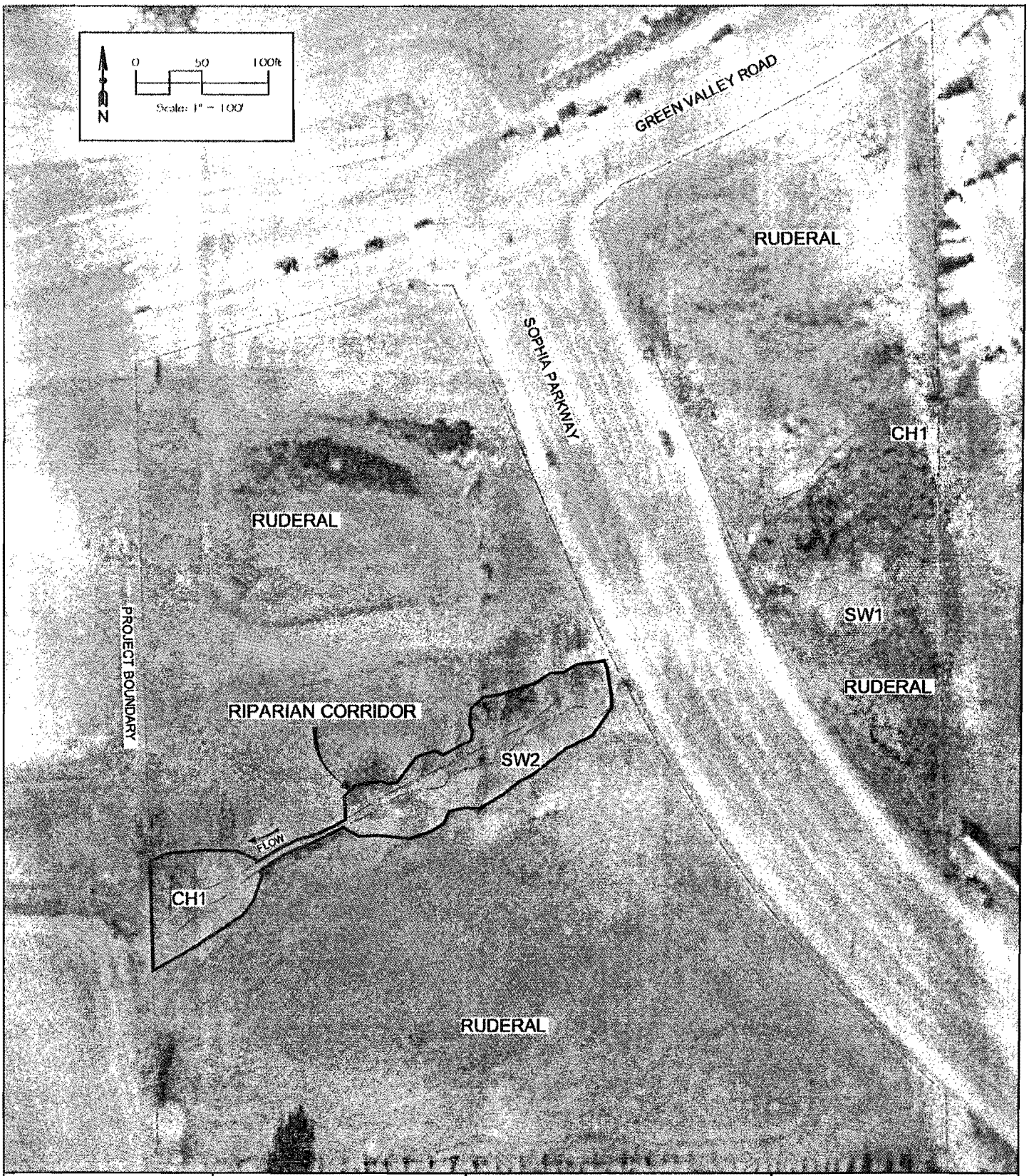
=Project Location

0 500 1000ft

Scale: 1" = 1000'

N

SYCAMORE
Environmental
Consultants, Inc.



Kniesel Property
El Dorado County, CA
20 June 2007

Figure 3.
Biological Resources Map

LEGEND:

= Project Boundary
= Channel (CH)
= Vegetation Boundary
= Seasonal Wetland (SW)

Community Types:	acres
Ruderal	7.38
Riparian Corridor	0.40
Channel 1	0.18
Seasonal Wetlands	0.14
Total:	8.10

SYCAMORE Environmental Consultants, Inc.

Basemap: Kniesel Topo.dwg ; Precision Land Surveying, Inc.
Image: 1 Jan. 2007, GlobeXplorer and Partners. Copyright 2007. All rights reserved.

Attachment B

CNDDB Summary Report & USFWS Letter

Kniesel Property
(APN 067-260-98)

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Landscape
Kniesel Property

	Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
1	***Accipiter cooperii***	Cooper's hawk	ABNKC12040			G5	S3		SC
2	***Agelaius tricolor***	tricolored blackbird	ABPBXB0020			G2G3	S2		SC
3	***Allium jepsonii***	Jepson's onion	PMLIL022V0			G1	S1.2	1B.2	
4	***Andrena blennospermatis***	A vernal pool andrenid bee	IIHYM35030			G2	S2		
5	***Antrozous pallidus***	pallid bat	AMACC10010			G5	S3		SC
6	***Ardea alba***	great egret	ABNGA05010			G5	S4		
7	***Ardea herodias***	great blue heron	ABNGA04010			G5	S4		
8	***Athene cunicularia***	burrowing owl	ABNSB10010			G4	S2		SC
9	***Balsamorhiza macrolepis var. macrolepis***	big-scale balsamroot	PDAST11061			G3G4T2	S2.2	1B.2	
10	***Banksula californica***	A cave-obligate harvestman	ILARA14020			GH	SH		
11	***Branchinecta lynchi***	vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3		
12	***Branchinecta mesovallensis***	midvalley fairy shrimp	ICBRA03150			G2	S2		
13	***Buteo swainsoni***	Swainson's hawk	ABNKC19070		Threatened	G5	S2		
14	***Calystegia stebbinsii***	Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1.1	1B.1	
15	***Ceanothus roderickii***	Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G2	S2.1	1B.2	
16	***Central Valley Drainage Hardhead/Squawfish Stream***	Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA			G?	S?		
17	***Chlorogalum grandiflorum***	Red Hills soaproot	PMLIL0G020			G2	S2.2	1B.2	
18	***Clarkia biloba ssp. brandegeeae***	Brandegee's clarkia	PDONA05053			G4G5T2	S2.2	1B.2	
19	***Desmocerus californicus dimorphus***	valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2		
20	***Dumontia oregonensis***	A water flea	ICBRA23010			G1G3	S1		
21	***Elanus leucurus***	white-tailed kite	ABNKC06010			G5	S3		
22	***Emys (=Clemmys) marmorata marmorata***	northwestern pond turtle	ARAAD02031			G3G4T3	S3		SC
23	***Eryngium pinnatisectum***	Tuolumne button-celery	PDAPI0Z0P0			G3	S3.2	1B.2	
24	***Fremontodendron decumbens***	Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1.2	1B.2	
25	***Galium californicum ssp. sierrae***	El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1.2	1B.2	
26	***Gratiola heterosepala***	Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G3	S3.1	1B.2	
27	***Haliaeetus leucocephalus***	bald eagle	ABNKC10010	Threatened	Endangered	G5	S2		
28	***Helianthemum suffrutescens***	Bisbee Peak rush-rose	PDCIS020F0			G2Q	S2.2	3.2	
29	***Hydrochara ricksecker***	Ricksecker's water scavenger beetle	IICOL5V010			G1G2	S1S2		
30	***Juncus leiospermus var. ahartii***	Ahart's dwarf rush	PMJUN011L1			G2T1	S1.2	1B.2	
31	***Laterallus jamaicensis coturniculus***	California black rail	ABNME03041		Threatened	G4T1	S1		
32	***Legenere limosa***	legenere	PDCAM0C010			G2	S2.2	1B.1	
33	***Lepidurus packardi***	vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3		
34	***Linderiella occidentalis***	California linderiella	ICBRA06010			G3	S2S3		

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Landscape
Kniesel Property

	Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
35	***Navarretia myersii ssp. myersii***	pincushion navarretia	PDPLM0C0X1			G1T1	S1.1	1B.1	
36	***Northern Hardpan Vernal Pool***	Northern Hardpan Vernal Pool	CTT44110CA			G3	S3.1		
37	***Northern Volcanic Mud Flow Vernal Pool***	Northern Volcanic Mud Flow Vernal Pool	CTT44132CA			G1	S1.1		
38	***Orcuttia tenuis***	slender orcutt grass	PMPOA4G050	Threatened	Endangered	G3	S3.1	1B.1	
39	***Orcuttia viscida***	Sacramento orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1.1	1B.1	
40	***Packera layneae***	Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2.1	1B.2	
41	***Phalacrocorax auritus***	double-crested cormorant	ABNFD01020			G5	S3		SC
42	***Phrynosoma coronatum (frontale population)***	Coast (California) horned lizard	ARACF12022			G4G5	S3S4		SC
43	***Pseudobahia bahiifolia***	Hartweg's golden sunburst	PDAST7P010	Endangered	Endangered	G2	S2.1	1B.1	
44	***Rana aurora draytonii***	California red-legged frog	AAABH01022	Threatened		G4T2T3	S2S3		SC
45	***Rana boylii***	foothill yellow-legged frog	AAABH01050			G3	S2S3		SC
46	***Spea (=Scaphiopus) hammondii***	western spadefoot	AAABF01030			G3	S3		SC
47	***Taxidea taxus***	American badger	AMAJF04010			G5	S4		SC
48	***Valley Needlegrass Grassland***	Valley Needlegrass Grassland	CTT42110CA			G1	S3.1		
49	***Wyethia reticulata***	El Dorado County mule ears	PDAST9X0D0			G2	S2.2	1B.2	

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

April 12, 2007

Document Number: 070412072407

R. John Little, Ph.D.
Sycamore Environmental Consultants, Inc.
6355 Riverside Blvd., Suite C
Sacramento, CA 95831

Subject: Species List for Kniesel Property

Dear: Dr. Little

We are sending this official species list in response to your April 12, 2007 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area.* For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 11, 2007.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at www.fws.gov/sacramento/es/branches.htm.

Endangered Species Division

TAKE PRIDE IN AMERICA

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 070412072407

Database Last Updated: March 5, 2007

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana aurora draytonii

California red-legged frog (T)

Reptiles

Thamnophis gigas

giant garter snake (T)

Birds

Haliaeetus leucocephalus

bald eagle (T)

Plants

Ceanothus roderickii

Pine Hill ceanothus (E)

Fremontodendron californicum ssp. decumbens

Pine Hill flannelbush (E)

Galium californicum ssp. sierrae

El Dorado bedstraw (E)

Senecio layneae

Layne's butterweed (=ragwort) (T)

Candidate Species

Fish

Oncorhynchus tshawytscha

Central Valley fall/late fall-run chinook salmon (C) (NMFS)

Quads Containing Listed, Proposed or Candidate Species:

CLARKSVILLE (511A)

County Lists

El Dorado County

Listed Species

Invertebrates

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana aurora draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Haliaeetus leucocephalus
bald eagle (T)

Plants

Calystegia stebbinsii
Stebbins's morning-glory (E)

Ceanothus roderickii
Pine Hill ceanothus (E)

Fremontodendron californicum ssp. decumbens
Pine Hill flannelbush (E)

Galium californicum ssp. sierrae
El Dorado bedstraw (E)

Senecio layneae
Layne's butterweed (=ragwort) (T)

Candidate Species

Amphibians

Bufo canorus
Yosemite toad (C)

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Plants

Rorippa subumbellata
Tahoe yellow-cress (C)

Key:

(E) ***Endangered*** - Listed as being in danger of extinction.

(T) ***Threatened*** - Listed as likely to become endangered within the foreseeable future.

(P) ***Proposed*** - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) ***Proposed Critical Habitat*** - The species is already listed. Critical habitat is being proposed for it.

(C) ***Candidate*** - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) ***Critical Habitat*** designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our critical habitat page for maps.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 11, 2007.

Attachment C

Plant and Wildlife Species Observed

Kniesel Property
(APN 067-260-98)

Plant Species Observed in the PSA.

FAMILY	SCIENTIFIC NAME	COMMON NAME	N/I [1]
DICOTS			
Apiaceae	*Torilis arvensis*		I
Asteraceae	*Carduus pycnocephalus*	Italian thistle	I
	Centaurea solstitialis	Yellow star-thistle	I
	Holocarpha virgata		N
	Lactuca serriola	Prickly lettuce	I
	Sonchus oleraceus	Common sow thistle	I
	Xanthium strumarium	Cocklebur	N
Brassicaceae	*Raphanus sativus*	Radish	I
Convolvulaceae	*Convolvulus arvensis*	Field bindweed	I
Fabaceae	*Lotus purshianus* var. *purshianus*		N
	Trifolium hirtum	Rose clover	I
Fagaceae	*Quercus lobata*	Valley oak	N
Gentianaceae	*Centaurium muehlenbergii*	Centaury	N
Geraniaceae	*Erodium* sp.		I
Lamiaceae	*Mentha pulegium*	Pennyroyal	I
	Trichostema lanceolatum	Vinegar weed	N
Lythraceae	*Lythrum hyssopifolium*		I
Onagraceae	*Epilobium* sp.	Fireweed	N
Polygonaceae	*Rumex crispus*	Curly dock	I
Rosaceae	*Rubus discolor*	Himalayan blackberry	I
Rubiaceae	*Galium aparine*	Goose grass	N
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	N
	Salix exigua	Narrow-leaved willow	N
	Salix gooddingii	Goodding's black willow	N
MONOCOTS			
Cyperaceae	*Cyperus* sp.	Nutsedge	--
	Eleocharis sp.	Spikerush	--
Juncaceae	*Juncus balticus*	Baltic rush	N
Poaceae	*Avena fatua*	Wild oat	I
	Bromus diandrus	Ripgut grass	I
	Bromus hordeaceus	Soft brome	I
	Cynodon dactylon	Bermuda grass	I
	Lolium multiflorum	Italian ryegrass	I
	Briza minor	Quaking grass	I
	Paspalum dilatatum	Dallis grass	I
	Polypogon sp.		--
	Taeniatherum caput-medusae	Medusa head	I
Typhaceae	*Typha angustifolia*	Narrow-leaved cattail	N

[1] N = Native to CA; I = Introduced; -- = Cannot be determined without keying to species

Wildlife Species Observed in the PSA.

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Turkey vulture	*Cathartes aura*
Red-tailed hawk	*Buteo jamaicensis*
Wild turkey	*Meleagris gallopavo*
MAMMALS	
California vole	*Microtus californicus*
Desert cottontail	*Sylvilagus audubonii*
Mule deer/Black – tailed Deer [1]	*Odocoileus hemionus*
FISH	
Mosquito fish	*Gambusia affinis*
REPTILES	
Western fence lizard	*Sceloporus occidentalis*
Western Rattlesnake	*Crotalus viridis*

[1]- Specimen was dead.

Attachment D

Photographs

Kniesel Property
(APN 067-260-98)

Photo 1. View from western portion of the project site looking east at channel. 23 January 2006.

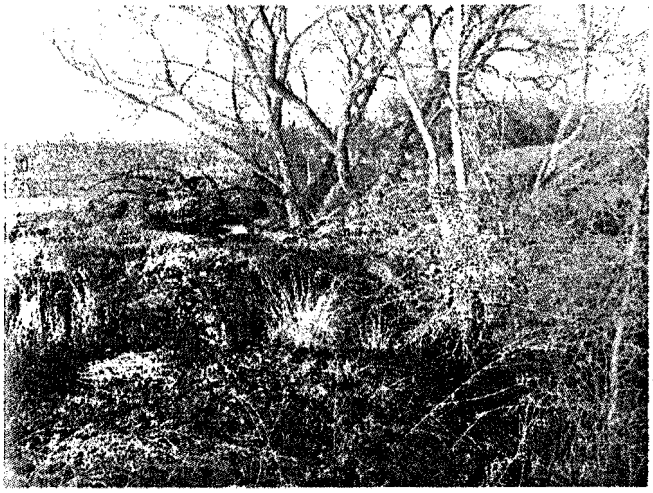


Photo 2. View from western portion of the project site looking west at channel. 23 January 2006. 23 January 2006.

Photo 3. View from eastern portion of the project site looking east at channel. 23 January 2006.

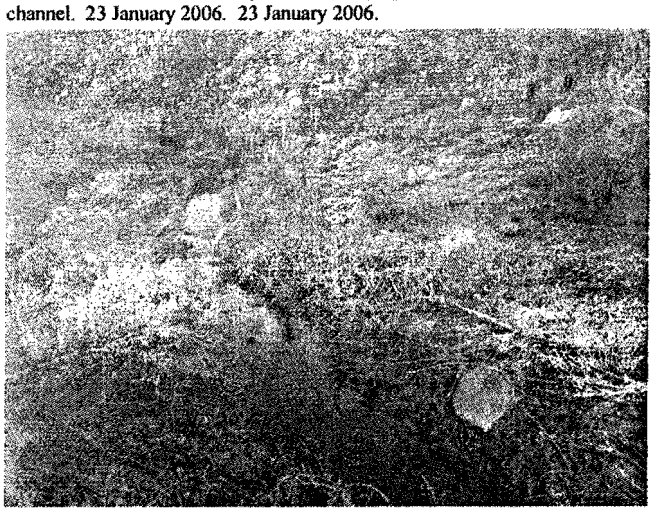


Photo 4. View from eastern portion of the project site looking west at channel. 23 January 2006.

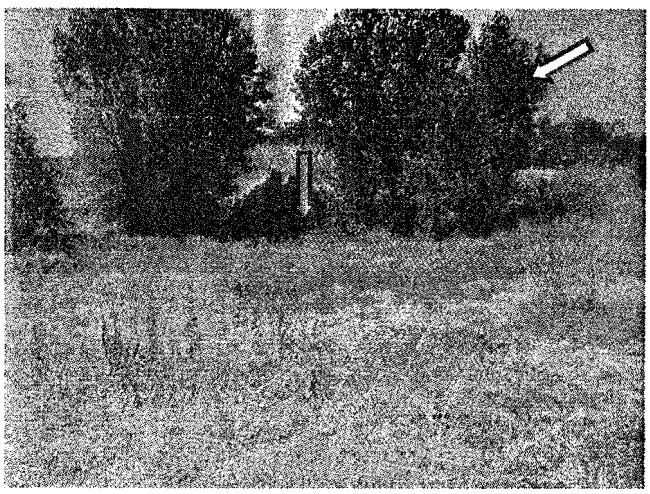


Photo 5. View from western portion of site looking north at riparian vegetation (white arrow) associated with channel (red arrow). Note California Annual Grassland in foreground. 5 August 2005.

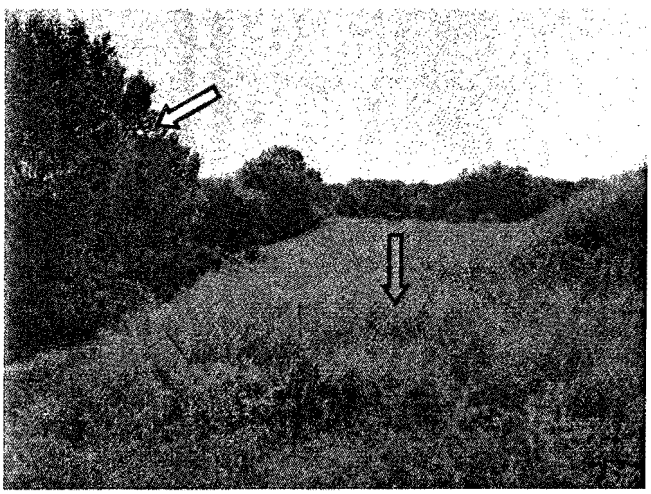


Photo 6. View from eastern edge of western portion of the project site, looking east at California Annual Grassland (red arrow) north of channel. White arrow shows location of riparian vegetation. 20 June 2005.

Attachment E

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SYCAMORE ENVIRONMENTAL CONSULTANTS, INC.
6355 Riverside Blvd., Suite C, Sacramento, CA 95831
916/ 427-0703 Fax 916/ 427-2175

1 May 2013

Mr. Marc Strauch
Cameron Park Petroleum, Inc.
301 Natoma Street, Suite 202
Folsom, CA 95630

Phone: (916) 257-6497

Subject: ***Biological and Jurisdictional Delineation Report Updates for the Green Valley Convenience Center Project, El Dorado County, CA.***

Dear Mr. Strauch:

The purpose of this letter is to update the biological and jurisdictional delineation reports previously prepared for the project site. The project boundary has been revised since the reports were prepared. The following biological reports were previously prepared for the project site:

20 June 2007	*Biological Evaluation Letter Report for Kniesel Property at Green Valley Road and Sophia Parkway.*
20 June 2007	*Preliminary Jurisdictional Delineation Report for the Kniesel Property.*

These reports encompassed an area that included land on both the east and west sides of Sophia Parkway. The current project only includes the approximately 2.12 acre area on the southeast corner of the intersection of Sophia Parkway and Green Valley Road. An analysis of current project setbacks to a channel on the site pursuant to General Plan Policy 7.3.3.4 was prepared on 4 December 2012.

Methods:

- A new California Natural Diversity Database (CNDDB) query was conducted for the Clarksville quad and the eight surrounding quads. A new letter from the U.S. Fish and Wildlife Service (USFWS) was obtained with a list of federal-listed species that could be affected by projects in the area. A query of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants was conducted. The results of the updated database searches are in Attachment A. The updated database searches were reviewed for changes since the 2007 biological report.
- Special-status species considered are those listed (or candidate or proposed) under the federal or state endangered species acts, under the California Native Plant Protection Act, as a California species of special concern or fully protected by the CA Department of Fish and Wildlife (CDFW), or that are on List 1 or 2 of the CNPS (2013) Inventory of Rare and Endangered Plants of California.

Attachment 8

- A site visit was conducted on 3 April 2013 to document current site conditions, and in support of updating the maps from the 2007 reports. Additional wetland determination data forms were completed for five datapoints on the site (Attachment B), in addition to the previous datapoints documented.
- A botanical survey was conducted on 12 April and 1 May 2013. Off-site reference populations of Sanford's arrowhead (*Sagittaria sanfordii*) and Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeeae*) were visited.
- Project design, prepared by Barghausen Consulting Engineers, Inc., was reviewed.

Results – Current Conditions & Impacts:

An updated Biological Resources Map is in Attachment C, and an updated Jurisdictional Delineation Map is in Attachment D. The only substantive change in site conditions since 2007 is the expansion of the seasonal wetland. The additional data points taken in 2013 indicate additional area in the southern portion of the site meets the Corps' 3-parameter test for wetlands. I flagged the seasonal wetland and the channel on 3 April 2013 and the boundaries were then surveyed by a professional surveyor. The attached updated maps include the boundaries located by the surveyor. The project has been designed to avoid the channel and seasonal wetland at the site. The updated channel and wetland boundaries were verified by the U.S. Army Corps of Engineers on 27 April 2013 (Attachment E).

Potential habitat exists on the site for one special-status species, Sanford's arrowhead, that has been added to the lists included in Attachment A since the 2007 report. Sanford's arrowhead is an aquatic emergent rhizomatous perennial herb that may occur in ponds, ditches, and shallow freshwater marshes and swamps below about 1,000 feet in elevation (CNPS 2013, Baldwin et al., 2012). Parts of the seasonal wetland and channel may contain enough water in spring and early summer to potentially support Sanford's arrowhead. The project design avoids the seasonal wetland and channel. An off-site reference population was visited on 1 May 2013 and Sanford's arrowhead was in bloom. Sanford's arrowhead was not observed during the botanical survey conducted during the evident and identifiable period and does not occur on the site. The project will not impact Sanford's arrowhead.

The 2007 biological report (and December 2012 setback analysis) noted that the project site provides potential habitat for Brandegee's clarkia. Brandegee's clarkia had a CNPS rare plant rank of 1B.2 when the biological report was prepared in 2007. Brandegee's clarkia now has a CNPS rare plant rank of 4.2 as it is "more common than originally thought" (CNPS 2013). Plants with an overall rank of 4 are unlikely to meet the listing requirements of the California Native Plant Protection Act or California Endangered Species Act, and are not routinely considered special-status species. The General Plan EIR only identifies plants with a rank of 1 or 2 as special-status species (El Dorado County 2004). An off-site reference population was visited on 12 April 2013 and Brandegee's clarkia was in bud, and again on 1 May 2013 and the plants were in bloom. Brandegee's clarkia was not observed during the botanical survey conducted during the evident and identifiable period and does not occur on the site. The project will not impact Brandegee's clarkia.

The 2007 biological report (and December 2012 setback analysis) identified northwestern pond turtle, white-tailed kite, birds listed by the federal Migratory Bird Treaty Act, and birds-of-prey identified by Fish and Game Code 3503.5 as potentially occurring on the site. Channel 1 provides only marginal habitat for northwestern pond turtle due to intermittent hydrology. Northwestern pond turtle at the site

habitat for northwestern pond turtle due to intermittent hydrology. Northwestern pond turtle at the site would be confined to the channel during times of water flow. The project will avoid impacts to northwestern pond turtle by avoiding Channel 1.

The project could impact special-status birds if an active nest was disrupted. Nine trees are expected to be removed by the project, mostly young cottonwoods growing in the spoils piles north of the channel. Incorporating the recommended mitigation for these resources in the December 2012 setback analysis, or comparable mitigation, will reduce the potential impacts.

We appreciate the opportunity of assisting you with this project. If you have any questions, please contact me.

Cordially,

Chuck Hughes, M.S.
Botanist/ Biologist

c: Mr. Eric Ramsing. Barghausen Consulting Engineers, Inc.

Attachment A.	USFWS Letter & List
	CNDDB Query
	CNPS Inventory Query
Attachment B.	Wetland Determination Data Forms
Attachment C.	Biological Resources Map
Attachment D.	Jurisdictional Delineation Map
Attachment E.	Preliminary Jurisdictional Determination Letter

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Attachment A

USFWS Letter & List
CNDDB Query
CNPS Inventory Query

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825

April 4, 2013

Document Number: 130404115945

R. John Little Ph.D.
Sycamore Environmental Consultants Inc.
6355 Riverside Blvd. Suite C
Sacramento, CA 95831

Subject: Species List for Green Valley Road at Sophia Parkway Project

Dear: Dr. Little

We are sending this official species list in response to your April 4, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area.* For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 03, 2013.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found here.

Endangered Species Division

TAKE PRIDE IN AMERICA

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 130404115945

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Plants

Calystegia stebbinsii
Stebbins's morning-glory (E)

Ceanothus roderickii
Pine Hill ceanothus (E)

Fremontodendron californicum ssp. decumbens
Pine Hill flannelbush (E)

Galium californicum ssp. sierrae
El Dorado bedstraw (E)

Senecio layneae

Layne's butterweed (=ragwort) (T)

Quads Containing Listed, Proposed or Candidate Species:

CLARKSVILLE (511A)

County Lists

El Dorado County

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)
Critical habitat, California red-legged frog (X)

Reptiles

Thamnophis gigas
giant garter snake (T)

Plants

Calystegia stebbinsii
Stebbins's morning-glory (E)

Ceanothus roderickii
Pine Hill ceanothus (E)

Fremontodendron californicum ssp. decumbens
Pine Hill flannelbush (E)

Galium californicum ssp. sierrae
El Dorado bedstraw (E)

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Senecio layneae
Layne's butterweed (=ragwort) (T)

Candidate Species

Amphibians

Bufo canorus
Yosemite toad (C)

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Plants

Rorippa subumbellata
Tahoe yellow-cress (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service.

Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

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Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two

procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands,

please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 03, 2013.

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S3	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	None	G2G3	S2	SSC
Allium jepsonii Jepson's onion	PMLIL022V0	None	None	G1	S1	1B.2
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S2	SSC
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Banksula californica Alabaster Cave harvestman	ILARA14020	None	None	GH	SH	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S2S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S2	
Calystegia stebbinsii Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1	1B.1
Ceanothus roderickii Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G1	S1	1B.2
Central Valley Drainage Hardhead/Squawfish Stream Central Valley Drainage Hardhead/Squawfish Stream	CARA2443CA	None	None	GNR	SNR	
Chlorogalum grandiflorum Red Hills soaproot	PMLIL0G020	None	None	G3	S3	1B.2
Clarkia biloba ssp. brandegeeae Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
Cosumnoperla hypocrena Cosumnes spring stonefly	IIPLE23020	None	None	G1	S1	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	G2	S2	2.2
Dumontia oregonensis hairy water flea	ICBRA23010	None	None	G1G3	S1	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eryngium pinnatisectum Tuolumne button-celery	PDAPI0Z0P0	None	None	G2	S2	1B.2
Falco columbarius merlin	ABNKD06030	None	None	G5	S3	WL
Fremontodendron decumbens Pine Hill flannelbush	PDSTE03030	Endangered	Rare	G1	S1	1B.2
Galium californicum ssp. sierrae El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Haliaeetus leucocephalus bald eagle	ABNKC10010	Delisted	Endangered	G5	S2	FP
Helianthemum suffrutescens Bisbee Peak rush-rose	PDCIS020F0	None	None	G2Q	S2.2	3.2
Hydrochara ricksecker Ricksecker's water scavenger beetle	IICOL5V010	None	None	G1G2	S1S2	
Juncus leiospermus var. ahartii Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
Lasionycteris noctivagans silver-haired bat	AMACC02010	None	None	G5	S3S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G4T1	S1	FP
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2.2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S2S3	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G3	S2S3	
Martes pennanti fisher - West Coast DPS	AMAJF01021	Candidate	None	G5	S2S3	SSC
Navarretia myersii ssp. myersii pincushion navarretia	PDPLM0C0X1	None	None	G1T1	S1	1B.1
Northern Hardpan Vernal Pool Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Northern Volcanic Mud Flow Vernal Pool Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
Orcuttia viscida Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
Packera layneae Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S3	WL
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S3	WL
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G4G5	S3S4	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Rana boylii foothill yellow-legged frog	AAABH01050	None	None	G3	S2S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G4T2T3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2S3	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S4	SSC
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Wyethia reticulata El Dorado County mule ears	PDAST9X0D0	None	None	G2	S2	1B.2

Record Count: 58

CNPS California Native Plant Society Inventory of Rare and Endangered Plants

Plant List

23 matches found. *Click on scientific name for details*

Search Criteria

Found in 9 Quads around 38121F1

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Allium jepsonii	Jepson's onion	Alliaceae	perennial bulbiferous herb	1B.2	S1	G1
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2
Calystegia stebbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	1B.1	S1	G1
Ceanothus roderickii	Pine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	1B.2	S1	G1
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	1B.2	S3	G3
Clarkia biloba ssp. brandegeeae	Brandegee's clarkia	Onagraceae	annual herb	4.2	S4	G4G5T4
Claytonia parviflora ssp. grandiflora	streambank spring beauty	Montiaceae	annual herb	4.2	S3.2	G5T3
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	2.2	S2	G2
Eryngium pinnatisectum	Tuolumne button-celery	Apiaceae	annual / perennial herb	1B.2	S2	G2
Fremontodendron decumbens	Pine Hill flannelbush	Malvaceae	perennial evergreen shrub	1B.2	S1	G1
Galium californicum ssp. sierrae	El Dorado bedstraw	Rubiaceae	perennial herb	1B.2	S1	G5T1
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	1B.2	S2	G2
Helianthemum suffrutescens	Bisbee Peak rush-rose	Cistaceae	perennial evergreen shrub	3.2	S2.2	G2Q
Horkelia parryi	Parry's horkelia	Rosaceae	perennial herb	1B.2	S2.2	G2
Juncus leiospermus var. ahartii	Ahart's dwarf rush	Juncaceae	annual herb	1B.2	S1	G2T1
Lathyrus sulphureus var. argillaceus	dubious pea	Fabaceae	perennial herb	3	S1S2	G1G2
Legenere limosa	legenere	Campanulaceae	annual herb	1B.1	S2.2	G2
Navarretia myersii ssp. myersii	pincushion navarretia	Polemoniaceae	annual herb	1B.1	S1	G1T1
Orcuttia tenuis	slender Orcutt grass	Poaceae	annual herb	1B.1	S2	G2

Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
Packera layneae	Layne's ragwort	Asteraceae	perennial herb	1B.2	S2	G2
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb	1B.2	S3	G3
Wyethia reticulata	El Dorado County mule ears	Asteraceae	perennial herb	1B.2	S2	G2

Suggested Citation

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Attachment B

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region
Routine Wetland Determination
(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Green Valley Convenience Center City/County: El Dorado County Sampling Date: 3 April 2013
Applicant/Owner: Cameron Park Petroleum, Inc. State: CA Sampling Point: 1
Investigator(s): Chuck Hughes Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear-convex Slope (%): 3
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Auburn silt loam NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of the year? Yes ☐ No ☒ (If no, explain in remarks.)
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ Naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒			
Hydric Soil Present?	Yes ☐	No ☒	Is the Sampled Area		
Wetland Hydrology Present?	Yes ☐	No ☒	within a Wetland?	Yes ☐	No ☒

Remarks: Last two months were drier than normal.

VEGETATION

Tree Stratum: ((Plot size: 2m rad)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		

Sapling/Shrub Stratum: (Plot size: 2m rad)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		

Herb Stratum: (Plot size: 2m rad)			
1. *Juncus xiphioides*	20	D	OBL
2. *Carduus pycnocephalus* ssp. *pycnocephalus*	30	D	--
3. *Bromus madritensis*	7		--
4. *Geranium dissectum*	10		--
5. *Galium aparine*	3		FACU
6.			
7.			
8.			
Total Cover:	70		

Woody Vine Stratum: (Plot size:)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 35 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:
Total % Cover of: Multiply by:
OBL Species: x 1 =
FACW Species x 2 =
FAC Species x 3 =
FACU Species x 4 =
UPL Species x 5 =
Column Totals: (A) (B)
Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of Hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: *Juncus xiphioides* is rhizomatous and likely drawing water from the nearby creek.

SOIL

Sampling Point: 1

Profile Description: (Describe the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5YR 4/4	100	--				Silt loam	Much cobble
>9							Rock/cobble	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks: Area contains old spoils piles.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface water (A1)
- ☐ High water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible-Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region
Routine Wetland Determination
(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Green Valley Convenience Center City/County: El Dorado County Sampling Date: 3 April 2013
Applicant/Owner: Cameron Park Petroleum, Inc. State: CA Sampling Point: 2
Investigator(s): Chuck Hughes Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex-convex Slope (%): 3
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Auburn silt loam NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of the year? Yes ☐ No ☒ (If no, explain in remarks.)
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ Naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒			
Hydric Soil Present?	Yes ☒	No ☐	Is the Sampled Area		
Wetland Hydrology Present?	Yes ☒	No ☐	within a Wetland?	Yes ☐	No ☒

Remarks: Last two months were drier than normal. Datapoint in slightly elevated landscape position. Nearby wetlands drain around this area on both sides into the creek.

VEGETATION

Tree Stratum: ((Plot size: 2m rad)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus fremontii* ssp. *fremontii*	40	D	FAC
2. *Quercus lobata*	5		FACU
3.			
4.			
Total Cover:	45		

Sapling/Shrub Stratum: (Plot size: 2m rad)			
1. *Rubus armeniacus*	10	D	FACU
2.			
3.			
4.			
5.			
Total Cover:	10		

Herb Stratum: (Plot size: 2m rad)			
1. *Galium aparine*	10	D	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	10		

Woody Vine Stratum: (Plot size: 2m rad)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 90 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL Species: --	x 1 =	--
FACW Species --	x 2 =	--
FAC Species 40	x 3 =	120
FACU Species 25	x 4 =	100
UPL Species --	x 5 =	--
Column Totals: 65 (A)		220 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of Hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5YR 3/3	100	--				Silt loam	
7-11	7.5YR 3/2	70	2.5YR 2.5/4	C	M		Silt loam	
11-17	7.5YR 3/2	95	2.5YR 2.5/4	C	M		Silt loam	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface water (A1)
- ☐ High water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible-Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches):	--
Water Table Present?	Yes ☐	No ☐	Depth (inches):	13
Saturation Present? (includes capillary fringe)	Yes ☐	No ☐	Depth (inches):	12

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, if available:

Remarks: Surrounding area is wet but nearby culverts drain the area and are several feet lower than this datapoint, limiting amount and/or period of water in the upper soil layer.

WETLAND DETERMINATION DATA FORM – Arid West Region
Routine Wetland Determination
(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Green Valley Convenience Center City/County: El Dorado County Sampling Date: 3 April 2013
Applicant/Owner: Cameron Park Petroleum, Inc. State: CA Sampling Point: 3
Investigator(s): Chuck Hughes Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear-linear Slope (%): 2
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Auburn silt loam NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of the year? Yes ☐ No ☒ (If no, explain in remarks.)
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ Naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☐	No ☒			
Hydric Soil Present?	Yes ☒	No ☐	Is the Sampled Area		
Wetland Hydrology Present?	Yes ☒	No ☐	within a Wetland?	Yes ☐	No ☒

Remarks: Last two months were drier than normal.

VEGETATION

Tree Stratum: ((Plot size: 2m rad)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		

Sapling/Shrub Stratum: (Plot size: 2m rad)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		

Herb Stratum: (Plot size: 2m rad)			
1. *Rumex conglomeratus*	15	D	FACW
2. *Geranium dissectum*	15	D	--
3. *Epilobium brachycarpum*	8		--
4. *Epilobium ciliatum*	10		FACW
5. *Helminthotheca echioides*	5		FACU
6. *Galium aparine*	1		FACU
7. *Lythrum hyssopifolia*	3		OBL
8.			
Total Cover:	57		

Woody Vine Stratum: (Plot size:)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species:	3	x 1 =	3
FACW Species	25	x 2 =	50
FAC Species	--	x 3 =	--
FACU Species	6	x 4 =	24
UPL Species	23	x 5 =	115
Column Totals:	57 (A)		192 (B)

Prevalence Index = B/A = 3.36

Hydrophytic Vegetation Indicators:
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of Hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100	--				Silt loam	
4-10	7.5YR 3/2	90	2.5Y 3/1	10	C	M	Silt loam	
>10							Cobble	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface water (A1)
- ☒ High water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible-Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral test (D5)

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches):	
Water Table Present?	Yes ☒	No ☐	Depth (inches):	8
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches):	2

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, if available:

Remarks: Slight surface water present nearby but outside plot.

WETLAND DETERMINATION DATA FORM – Arid West Region
Routine Wetland Determination
(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Green Valley Convenience Center City/County: El Dorado County Sampling Date: 3 April 2013
Applicant/Owner: Cameron Park Petroleum, Inc. State: CA Sampling Point: 4
Investigator(s): Chuck Hughes Section, Township, Range: See Report
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear-concave Slope (%): 2
Subregion (LRR): C Lat: See Report Long: Datum:
Soil Map Unit Name: Auburn silt loam NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of the year? Yes ☐ No ☒ (If no, explain in remarks.)
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐ Soil ☐, Or Hydrology ☐ Naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐			
Hydric Soil Present?	Yes ☒	No ☐	Is the Sampled Area		
Wetland Hydrology Present?	Yes ☒	No ☐	within a Wetland?	Yes ☒	No ☐

Remarks: Last two months were drier than normal.

VEGETATION

Tree Stratum: ((Plot size: 2m rad)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		

Sapling/Shrub Stratum: (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		

Herb Stratum: (Plot size: 0.5 x 2m rad)			
1. *Rumex conglomeratus*	15	D	FACW
2. *Geranium dissectum*	5		--
3. *Epilobium ciliatum*	10	D	FACW
4. *Helminthotheca echioides*	20	D	FACU
5. *Galium aparine*	3		FACU
6. *Mentha pulegium*	10	D	OBL
7. *Epilobium brachycarpum*	3		--
8. *Lythrum hyssopifolia*	7		OBL
Total Cover:	73		

Woody Vine Stratum: (Plot size: 2m rad)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:
Total % Cover of: Multiply by:
OBL Species: x 1 =
FACW Species x 2 =
FAC Species x 3 =
FACU Species x 4 =
UPL Species x 5 =
Column Totals: (A) (B)
Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
☒ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of Hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

SOIL

Sampling Point: 4

Profile Description: (Describe the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/2	100	--				Silt loam	
3-5	10YR 3/2	95	10YR 3/4	5	C	M	Silt loam	
5-12	7.5YR 3/4	96	7.5YR 4/2	4	D	M	Silt loam	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☒ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface water (A1)
- ☐ High water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible-Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 1

Water Table Present? Yes ☐ No ☐ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Routine Wetland Determination

(September 2008 V2.0 COE Arid West Wetlands Delineation Manual)

Project/Site: Green Valley Convenience Center City/County: El Dorado County Sampling Date: 3 April 2013

Applicant/Owner: Cameron Park Petroleum, Inc. State: CA Sampling Point: 5

Investigator(s): Chuck Hughes Section, Township, Range: See Report

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear-concave Slope (%): ≈0

Subregion (LRR): C Lat: See Report Long: Datum:

Soil Map Unit Name: Auburn silt loam NWI classification: None

Are climatic/hydrologic conditions on the site typical for this time of the year? Yes ☐ No ☒ (If no, explain in remarks.)

Are Vegetation ☐ Soil ☐, Or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ Soil ☐, Or Hydrology ☐ Naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☒	No ☐			
Hydric Soil Present?	Yes ☒	No ☐	Is the Sampled Area		
Wetland Hydrology Present?	Yes ☒	No ☐	within a Wetland?	Yes ☒	No ☐

Remarks: Last two months were drier than normal.

VEGETATION

Tree Stratum: ((Plot size: 2m rad)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		

Sapling/Shrub Stratum: (Plot size: 2m rad)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		

Herb Stratum: (Plot size: 2m rad)			
1. *Rumex conglomeratus*	40	D	FACW
2. *Geranium dissectum*	15	D	--
3. *Epilobium ciliatum*	10		FACW
4. *Galium aparine*	5		FACU
5.			
6.			
7.			
8.			
Total Cover:	70		

Woody Vine Stratum: (Plot size: 2m rad)			
1.			
2.			
Total Cover:	0		

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL Species: --	x 1 =	--
FACW Species 50	x 2 =	100
FAC Species --	x 3 =	--
FACU Species 5	x 4 =	20
UPL Species 15	x 5 =	45
Column Totals: 70 (A)		165 (B)

Prevalence Index = B/A = 2.36

Hydrophytic Vegetation Indicators:

- ☐ Dominance Test is >50%
- ☒ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of Hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:

SOIL Sampling Point: 5

Profile Description: (Describe the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth	Matrix		Redox Features					
Inches	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Silt loam	
4-12	10YR 3/2	85	7.5YR 3/4	15	C	M	Silt loam	

[1]Type : C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface water (A1)
- ☒ High water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible-Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral test (D5)

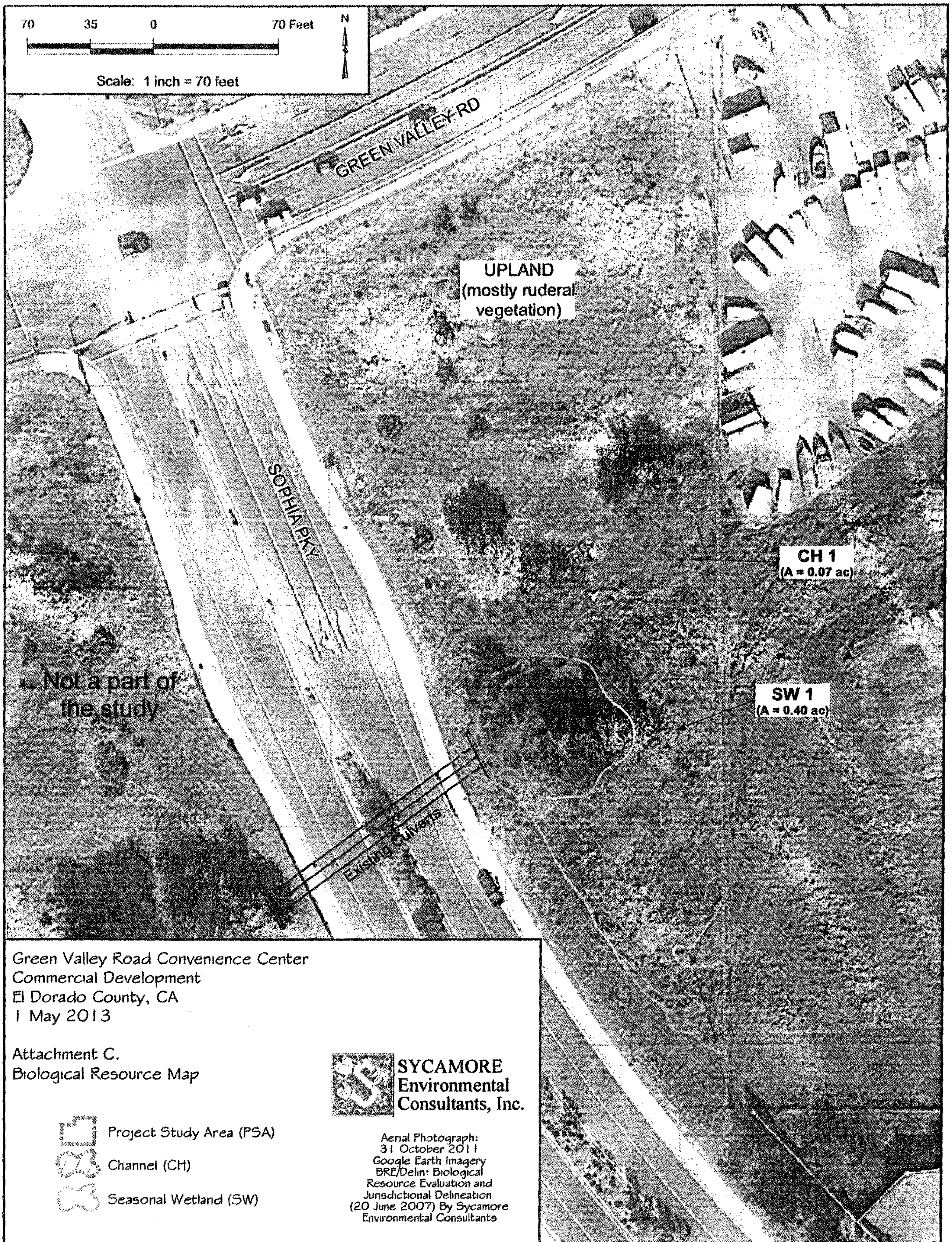
Field Observations:

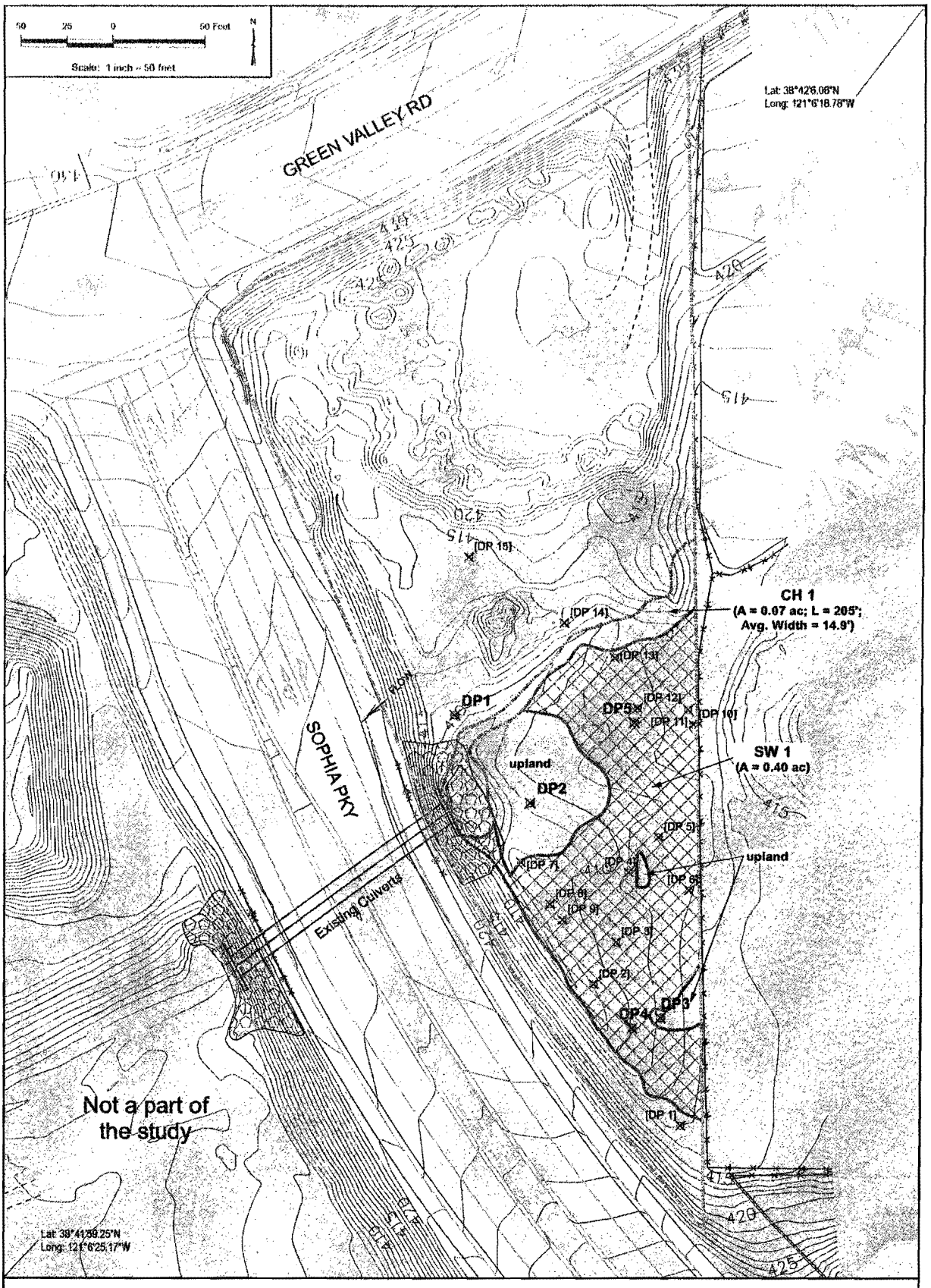
Surface Water Present?	Yes ☐	No ☒	Depth (inches):	
Water Table Present?	Yes ☒	No ☐	Depth (inches):	10
Saturation Present? (includes capillary fringe)	Yes ☒	No ☐	Depth (inches):	7

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, if available:

Remarks: Old *Rumex conglomeratus* stems knocked down in the direction of flow toward creek.


70 35 0 70 Feet
N
Scale: 1 inch = 70 feet
GREEN VALLEY RD
UPLAND
(mostly ruderal
vegetation)
SOPHIA PKY
CH 1
(A = 0.07 ac)
SW 1
(A = 0.40 ac)
Not a part of
the study
Existing Culverts
Green Valley Road Convenience Center
Commercial Development
El Dorado County, CA
1 May 2013
Attachment C.
Biological Resource Map
SYCAMORE
Environmental
Consultants, Inc.
Project Study Area (PSA)
Channel (CH)
Seasonal Wetland (SW)
Aerial Photograph:
31 October 2011
Google Earth Imagery
BRE/Delin: Biological
Resource Evaluation and
Jurisdictional Delineation
(20 June 2007) By Sycamore
Environmental Consultants



Green Valley Road at Sophia Parkway
Commercial Development
El Dorado County, CA
11 April 2013

Jurisdictional Delineation Map

Project Study Area (PSA)
Channel (CH)
Seasonal Wetland (SW)
DP 1 Datapoint and location (DP)
[DP 1] Datapoint and location (DP; 2007)
Existing RSP

Feature	Length (ac)	Average Width (ac)	Area (ac)
CH 1	205	14.9	0.07
SW 1	--	--	0.40
	205	--	0.47

SYCAMORE Environmental Consultants, Inc.

Date	Submittal	Delineators	Agency/Company
16-Apr-07	Original	TJW, SMB, JJL	Sycamore Env
11-Apr-13	Update	CCH	Sycamore Env

Aerial Photograph: 31 October 2011
Google Earth Imagery
ERE/Delin: Biological Resource Evaluation and Jurisdictional Delineation (20 June 2007)
By Sycamore Environmental Consultants
Topographic Layer: Topo.shp (Aug. 2005)
By Sycamore Environmental Consultants
I:\2047GV\dat\Sophia Pkwy_DelinUpdate(11x17)_v2.mxd

Attachment E

Preliminary Jurisdictional Determination Letter

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

April 27, 2013

Regulatory Division SPK-2013-00141

Mr. Marc Strauch
The Strauch Companies
301 Natomas Street, Suite 202
Folsom, California 95630

Dear Mr. Strauch:

We are responding to your April 18, 2013, request for a preliminary jurisdictional determination (JD), in accordance with our Regulatory Guidance Letter (RGL) 08-02, for the Green Valley Convenience Center site. The approximately 2.12-acre site is located in Section 21, Township 10 North, Range 8 East, Mount Diablo Meridian, Latitude 38.7008451398235°, Longitude -121.105944054268°, El Dorado Hills, El Dorado County, California.

Based on available information, **we concur with the amount and location of wetlands and/or other water bodies on the site as depicted on the enclosed April 11, 2013, *Green Valley Road at Sophia Parkway, Commercial Development, El Dorado County, CA*, drawing prepared by Sycamore Environmental Consultants, Inc** (enclosure 1). The approximately 0.47 acre of wetlands and other water bodies present within the survey area are potential waters of the United States regulated under Section 404 of the Clean Water Act.

A copy of our RGL 08-02 Preliminary Jurisdictional Determination Form for this site is enclosed (enclosure 2). Please sign and return a copy of the completed form to this office. Once we receive a copy of the form with your signature we can accept and process a Pre-Construction Notification or permit application for your proposed project.

You should not start any work in potentially jurisdictional waters of the United States unless you have Department of the Army permit authorization for the activity. You may request an approved JD for this site at any time prior to starting work within waters. In certain circumstances, as described in RGL 08-02, an approved JD may later be necessary.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This preliminary determination has been conducted to identify the potential limits of wetlands and other water bodies which may be subject to Corps of Engineers' jurisdiction for the particular site identified in this request. A Notification of Appeal Process and Request for Appeal Form is enclosed to notify you of your options with this determination (enclosure 3).

This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are U.S. Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey.*

Please refer to identification number SPK-2013-00141 in any correspondence concerning this project. If you have any questions, please contact Mr. Peck Ha at our California North Branch Office, Regulatory Division, Sacramento District, U.S. Army Corps of Engineers, 1325 J Street, Room 1350, Sacramento, California 95814-2922, email *Peck.Ha@usace.army.mil*, or telephone 916-557-6617. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx.*

Sincerely,

Nancy Arcady Haley
Chief, California North Branch

Enclosures

Copy Furnished with enclosure 1:
Mr. Tom Dougherty, County of El Dorado, 2850 Fairlane Court, Placerville, California 95667-4100

Copies Furnished without enclosures:
Mr. Chuck Hughes, Sycamore Environmental Consultants, Inc., 6355 Riverside Blvd., Suite C, Sacramento, California 95831
Ms. Elizabeth Lee, Storm Water and Water Quality Certification Unit, California Regional Water Quality Control Board, Central Valley Region, 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Mr. Tina Bartlett, California Department of Fish and Game, Region 2, 1701 Nimbus Drive, Rancho Cordova, California 95670-4599
U.S. Fish and Wildlife Service, Forest Foothill Branch, Endangered Species Division, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-3901
Mr. Jason Brush, Environmental Protection Agency, WRT-8, 75 Hawthorne Street, San Francisco, California 94105-3922

SYCAMORE ENVIRONMENTAL CONSULTANTS, INC.
6355 Riverside Blvd., Suite C, Sacramento, CA 95831
Phone: 916/ 427-0703 Fax: 916/ 427-2175

4 December 2012

Mr. Marc Strauch
Cameron Park Petroleum, Inc.
301 Natoma Street, Suite 202
Folsom, CA 95630

Phone: 916/ 257-6497

Subject: General Plan Policy 7.3.3.4 Analysis of Setback to an Unnamed Creek for the Proposed ARCO Green Valley Road at Sophia Parkway Project, El Dorado County, CA.

Dear Mr. Strauch:

This letter evaluates a proposed commercial development for consistency with El Dorado County General Plan Policy 7.3.3.4 and the Interim Interpretive Guidelines (adopted 22 June 2006) for that policy. The County currently uses the interim standard setbacks of 100 feet for perennial waters and 50 feet for intermittent waters and wetlands until permanent standards are established in the zoning ordinance. According to the General Plan, these interim standards may be modified if a project demonstrates that a smaller setback would be sufficient to protect the particular waters or wetlands present. The County's site assessment form identifies the protected attributes.

Sycamore Environmental previously prepared a Preliminary Jurisdictional Delineation Report and Biological Evaluation Letter Report (both dated 20 June 2007), which included both the proposed project site and a larger area on the west side of Sophia Parkway. I visited the proposed project site on 26 July 2012 to observe current conditions.

Existing Conditions

The Project site is approximately 2.12 acres on the southeast corner of Green Valley Road and Sophia Parkway, in the El Dorado Hills area (Attachment A). The surrounding area is characterized by residential and commercial development, with undeveloped or open space parcels containing oak woodland. Folsom Lake and the Brown's Ravine Recreation Area are north of the site on the north side of Green Valley Road. The site is bordered on the east by an RV storage yard, open grassland with potential wetlands, and a construction staging area. West of the site across Sophia Parkway is undeveloped land that was included in the 2007 reports. The Project site conditions were similar in 2007 and 2012. A strawberry field on the west side of Sophia Parkway is no longer present. The Project site is not in a designated "Important Biological Corridor" or "Ecological Preserves" overlay pursuant to the General Plan (El Dorado County 2004).

ATTACHMENT 9

The site topography appears unchanged relative to the conditions described in 2007. The area north of Channel 1 consists of old spoils piles, with gravel and cobble evident at the surface, covered primarily with ruderal vegetation. Several young Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) trees have established among the spoils piles. These young cottonwoods are considered riparian vegetation in this letter because they may be influenced by the proximity of Channel 1, although they are not directly along the channel. Native willows (*Salix lasiolepis, S. gooddingii, S. exigua*) and cottonwoods, and nonnative invasive Himalayan blackberry (*Rubus armeniacus*), have substantially expanded along Channel 1 based on site photographs from 2006-2007.

Seasonal wetland 1 was identified south of Channel 1 in 2007. Based on the current vegetation, the boundaries of seasonal wetland 1 may have expanded south of Channel 1. The wetland may have been expanding since the construction of Sophia Parkway in approximately 2002. The wetland is not evident on aerial photography from 1962 (NRCS 1974) or 1993 (Google Earth© 2011) and is not noted on the U.S. Fish and Wildlife Service National Wetland Inventory Map based on 1987 aerial photography. There are no known springs in the watershed (NRCS 1974), but continuing development in the watershed may be providing increasing irrigation runoff.

Channel 1 was classified as intermittent in the 2007 delineation report pursuant to U.S. Army Corps of Engineers definitions of stream hydrology. The County Guidelines for Policy 7.3.3.4 use a different definition of intermittent that requires that a channel "normally flows for at least thirty days after the last major rain of the season and is dry the remainder of the year, not including manmade drainage. Intermittent streams do not include ephemeral watercourses." Channel 1 was observed to be flowing in August 2005, January 2006, and March 2007. The water in August 2005 may have been influenced by an irrigated strawberry field present at the time. Channel 1 at the site was dry on 26 July 2012, except for a deeper area that contained standing water adjacent to the culvert under Sophia Parkway. Channel 1 does not appear on the U.S. Geological Survey Clarksville topographic map or the National Wetland Inventory Map, which are both based on conditions prevalent prior to substantial development in the watershed. Channel 1 was large enough to be evident on the 1962 aerial photograph. The natural hydrology of the channel is uncertain and may be ephemeral. For the purposes of this letter Channel 1 appears to have intermittent hydrology pursuant to the County definition. The applicable standard setback is 50 feet.

Proposed Project

Project design in plan view, dated 30 November 2012, was provided by Barghausen Consulting Engineers, Inc. The proposed project is a gas station and car wash with adjoining fast-food restaurant (Attachment B), with a footprint of approximately 1.3 acres. A retaining wall on the south side of the project footprint is the feature closest to Channel 1. Two drive lanes, one for the restaurant drive-thru and one for the car wash, and a trash enclosure are next to the retaining wall. The distance of the permanent retaining wall from Channel 1 varies from approximately 11 to 40 feet. Construction of the retaining wall could be expected to temporarily disturb the area an additional 5 feet closer to Channel 1. Hence the minimum project setback to Channel 1 will be 6 feet during construction, and 11 feet after completion.

Alternative Setback Analysis

The following responds to items a) through g) of the County Site Assessment Form for General Plan Policy 7.3.3.4 included in Attachment C. My resume is in Attachment D as required by the form. Photographs are in Attachment E.

a. Riparian Vegetation) The project, with or without the proposed alternative setback, would remove riparian vegetation. With a standard 50 foot setback the project would remove 5-6 cottonwood trees. With the proposed alternative setback the project will remove 6 cottonwood trees and 3 willow trees (2 red willows and 1 Goodding's black willow). The project will also remove Himalayan blackberry, which commonly occurs in riparian areas, but is a nonnative invasive weed with ecological impacts rated "high" by Cal-IPC (2006). Mitigation #1 below is recommended to reduce potential impacts to riparian vegetation.

b. Creeks or Streams) The proposed project avoids Channel 1.

c. Wetlands or Lakes) The proposed project avoids seasonal wetland 1.

d. Wildlife Movement/Migration) The project would not impact wildlife movement or migration at the proposed alternative setback. The project footprint is bound by busy roads on the west and north, and existing development on the east. The edge of an existing residential development is approximately 300 feet south of the project footprint. Channel 1 is in a culvert approximately 130 feet long under Sophia Parkway on the west side of the site. The RV storage yard extends to near the edge of Channel 1 on east side of the site. As a result, existing conditions preclude the site from having value for wildlife movement or migration. The site is not in a County designated "Important Biological Corridor."

e. Special-Status Species) The project could impact special-status species with or without the proposed alternative setback. The Biological Evaluation Letter Report prepared for the site identified the potential for northwestern pond turtle, white-tailed kite, birds listed by the federal Migratory Bird Treaty Act (MBTA), birds-of-prey regulated under State Fish and Game code (§3503.5), and Brandegee's clarkia as special-status species that could potentially occur at the site.

Channel 1 provides only marginal habitat for northwestern pond turtle due to intermittent hydrology. Northwestern pond turtle at the site would be confined to the channel during times of water flow. The project will avoid impacts to northwestern pond turtle by avoiding Channel 1.

The project site provides potential nesting sites for special-status birds. The project could impact a special-status bird if an active nest was disturbed. Mitigation #2 below is recommended to reduce potential impacts to special-status birds.

Brandegee's clarkia had a rare plant rank of 1B.2 when the Biological Evaluation Letter Report was prepared in 2007. Brandegee's clarkia now has a rare plant rank of 4.2 (CNPS 2012). Plants with an overall rank of 4 are unlikely to meet the listing requirements of the California Native Plant Protection Act or California Endangered Species Act. No mitigation is proposed for Brandegee's clarkia. The determination as to whether to consider a plant with a rank of 4 lies with the CEQA lead agency. Brandegee's clarkia is not a riparian-dependent species. It typically occurs in chaparral, cismontane woodland (typically oak woodland), or lower montane coniferous forest (CNPS 2012).

f. BMPs) The County "Erosion Control for Site Development" Policy identifies Best Management Practices (BMPs) that could be incorporated as applicable (Attachment F). The Policy has not changed although it is marked with a 2010 expiration date (pers. comm., R. Wieand, El Dorado County Building Department).

g. Prior County Approval) The alternative setback request was not subject to prior County approval.

Recommended Mitigation

Recommended Mitigation 1: The project shall plant no fewer than 9 native riparian trees (consisting of at least 6 cottonwoods and 3 willows) in the southern portion of the parcel outside of the project footprint. The cottonwoods shall be planted at least 60 feet away from the project footprint and Sophia Parkway. The planting shall occur within 1 year of the initiation of project construction. The success criterion is the survival of 9 riparian trees 2 years after planting.

Recommended Mitigation 2: If construction begins outside the 1 February to 31 August breeding season, there will be no need to conduct a preconstruction survey for active nests. If a nest becomes active after construction has started, then the bird is considered adapted to construction disturbance.

If construction is scheduled to begin between 1 February and 31 August then a qualified biologist shall conduct a preconstruction survey for active nests at the construction site and within 250 ft of the construction site from publicly accessible areas within two weeks prior to construction. If no active nest of a bird-of-prey or MBTA bird is found, then no further mitigation measures are necessary.

If an active nest of a bird-of-prey or MBTA bird is found, then the biologist shall flag a minimum 250-foot Environmentally Sensitive Area (ESA) around the nest if the nest is of a bird-of-prey, and a minimum 100-foot ESA around the nest if the nest is of an MBTA bird other than a bird of prey. No construction activity shall be allowed in the buffer until the biologist determines that the nest is no longer active, or unless monitoring determines that a smaller buffer will protect the active nest.

The buffer may be reduced if the biologist monitors the construction activities and determines that no disturbance to the active nest is occurring. The size of suitable buffers depends on the species of bird, the location of the nest relative to the project, project activities during the time the nest is active, and other project specific conditions.

Conclusion

The alternative setback requested, with the recommended mitigation, is sufficient to protect Channel 1. Please note that the alternative setback request may require the review and approval of the Planning Commission because the alternative setback is less than 25 ft. The County Guidelines state "if a discretionary review process is not otherwise required for the project, the request for alternative setbacks will be considered by the Planning Commission as a policy determination." Please contact me if you have any questions.

Cordially,

Chuck Hughes, M.S.
Botanist/Biologist

Attachment A. Existing conditions
Attachment B. Site design
Attachment C. Site Assessment Form
Attachment D. Resume
Attachment E. Photographs
Attachment F. El Dorado County Erosion Control for Site Development Policy

Literature Cited

California Invasive Plant Council (Cal-IPC). 2006. Invasive plant inventory. California Invasive Plant Council, Berkeley, CA. <www.cal-ipc.org>

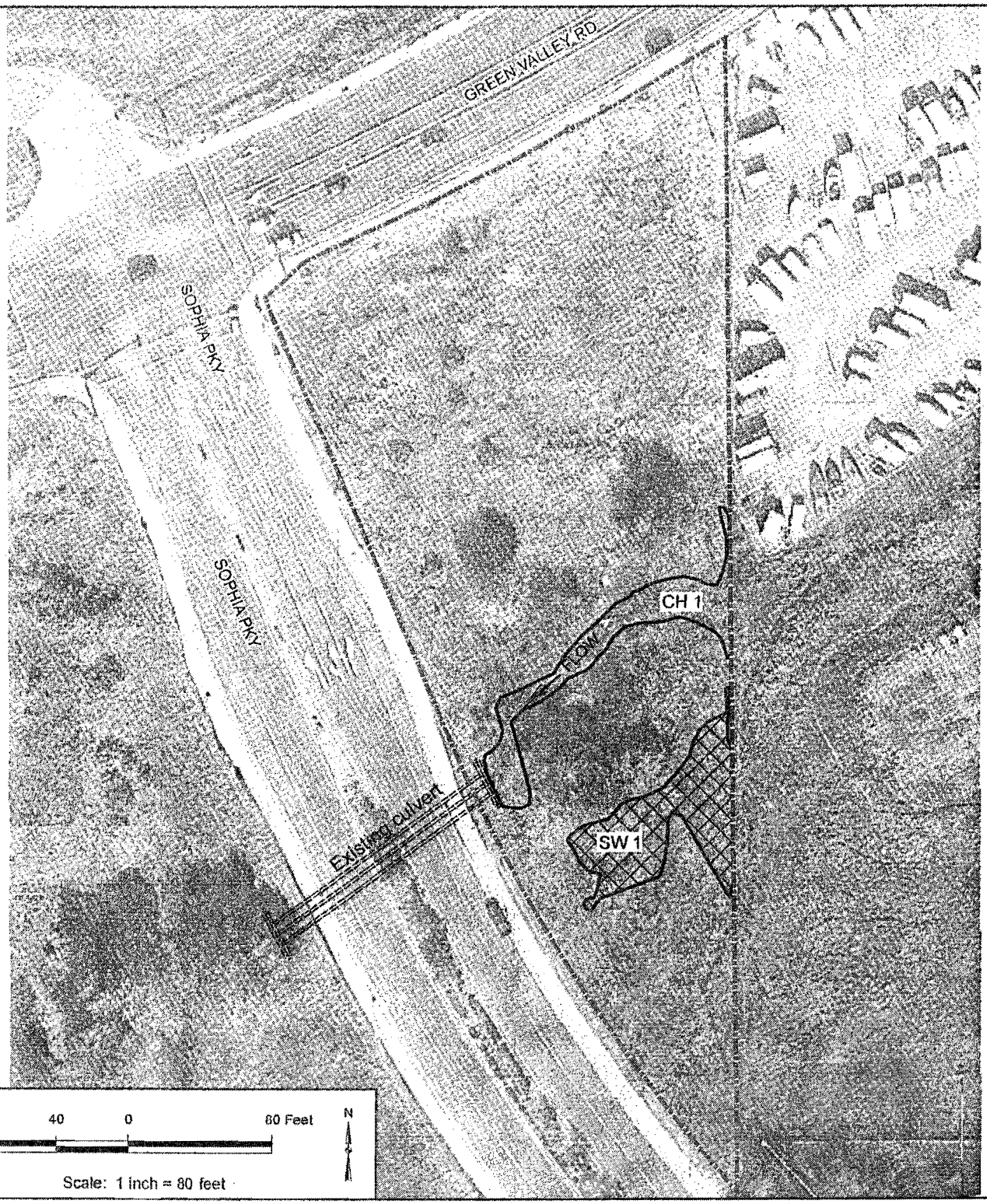
California Native Plant Society (CNPS). Accessed 3 December 2012. Inventory of rare and endangered plants (online edition, v8-01a). California Native Plant Society, Sacramento, CA. <http://www.cnps.org/inventory>

El Dorado County. Adopted 19 July 2004. El Dorado County general plan, a plan for managed growth and open roads; a plan for quality neighborhoods and traffic relief. El Dorado County Planning Department, Placerville, CA.

Natural Resources Conservation Service (NRCS; formerly known as Soil Conservation Service). April 1974. Soil survey of El Dorado Area, California. USDA – Soil Conservation Service.

Sycamore Environmental Consultants, Inc. 20 June 2007. Biological evaluation letter report for Kneisel Property at Green Valley Road and Sophia Parkway. Prepared for CEMO Commercial, Inc.

Sycamore Environmental Consultants, Inc. 20 June 2007. Preliminary jurisdictional delineation report for the Kneisel Property. Prepared for CEMO Commercial, Inc.



Green Valley Road at Sophia Parkway
Commercial Development
El Dorado County, CA
3 December 2012

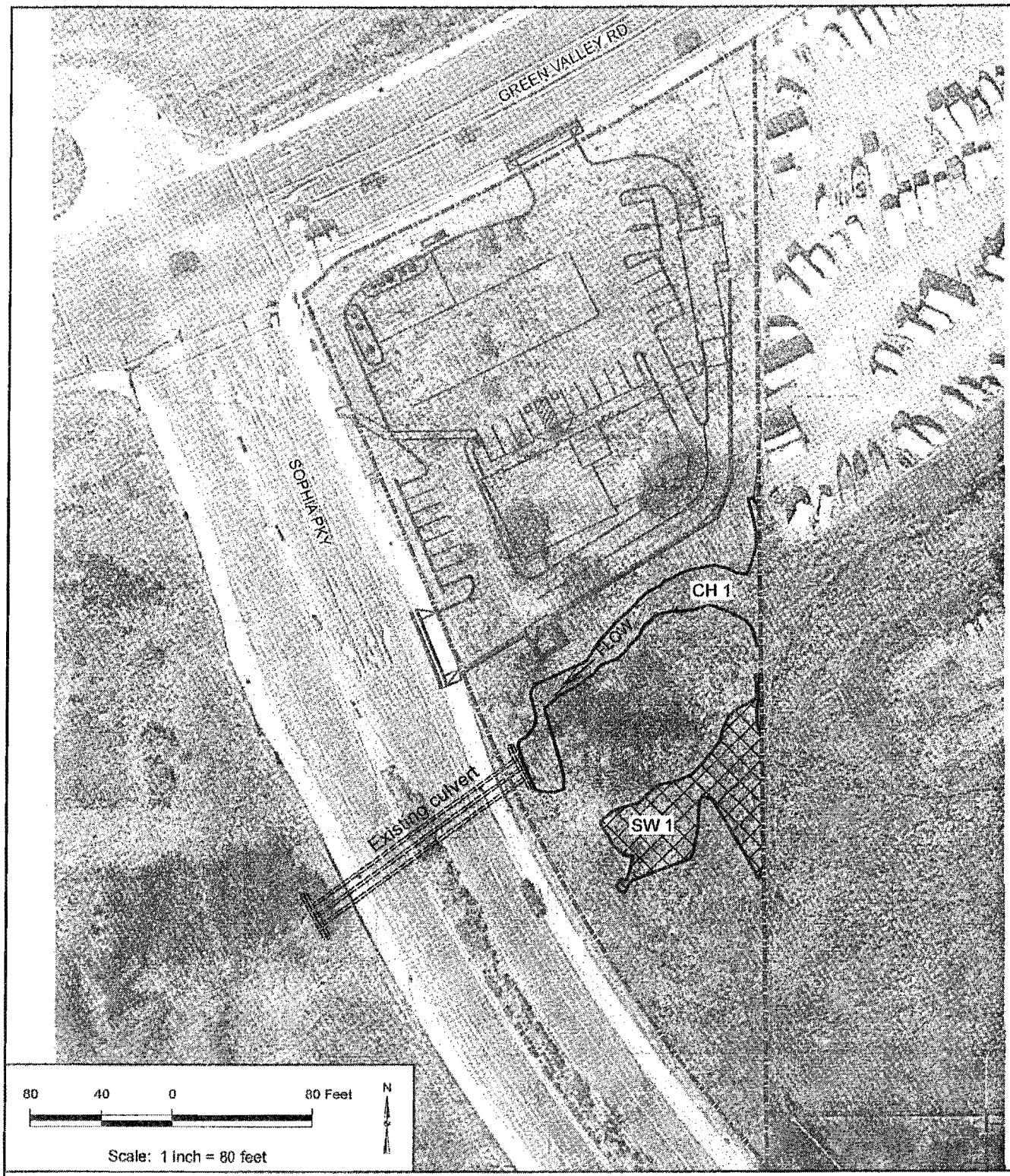
Project Study Area (PSA)
Channel (CH)
Seasonal Wetland (SW)
Existing culvert

Attachment A. Existing conditions

SYCAMORE
Environmental
Consultants, Inc.

Aerial Photograph: 31 October 2011
Google Earth Imagery
Existing wetlands and waters:
Biological Resource Evaluation and
Jurisdictional Delineation (20 June 2007)
By Sycamore Environmental Consultants
Site Design: z15593t.dwg (7 Aug 2012)
by Barghausen Consulting Engineers, Inc

12047CVRdatSophiaPkwy_AttAExistingCond.mxd



Green Valley Road at Sophia Parkway
Commercial Development
El Dorado County, CA
4 December 2012

Attachment B. Site Design

Project Study Area (PSA)
Channel (CH)
Seasonal Wetland (SW)
Existing culvert
Proposed Project

SYCAMORE Environmental Consultants, Inc.

Aerial Photograph: 31 October 2011
Google Earth Imagery
Existing wetlands and waters:
Biological Resource Evaluation and
Jurisdictional Delineation (20 June 2007)
By Sycamore Environmental Consultants
Site Design: SP_1-15593.dwg (Received 3 Dec. 2012)
by Barghausen Consulting Engineers, Inc

12047GVRdatSophiaPkwy_AttBSiteDesign_3Dec2012Design.mxd

SITE ASSESSMENT FORM

Project Biologist & Contact Information: *(attach qualifications)*	Chuck Hughes Sycamore Environmental. (916) 427-0703
APN(s):	124-301-46
Address:	Southeast corner of Green Valley Rd. and Sophia Parkway.
General Plan Designation:	Commercial
Zoning:	Commercial Planned Development
Project Description: *(attach site photos)*	See accompanying letter.
Alternative Setback Requested:	6 ft. minimum during construction 11 ft. minimum permanently for retaining wall.

Would the project, at the proposed alternative setback, directly or indirectly have the potential to cause any impact, conflict with, or disturbance to:	**YES**	**NO**
a) Riparian Vegetation?	X	
b) Creeks or Streams?		X
c) Wetlands or Lakes?		X
d) Movement of Wildlife and/or Any Wildlife Migration Corridor?		X
e) Any Candidate, Listed or Special Status Plant or Animal Species?	X	
f) Are all applicable Best Management Practices incorporated into the project? *(attach BMPs)*	X	
g) Was alternative setback request subject to prior County approval? (If yes, provide Tentative Map # and environmental documents)		X

Conclusions: See accompanying letter.

I affirm that all of the information contained in this document is true and correct to the best of my knowledge and I acknowledge and agree that any material misinformation in this document can result in the denial or revocation of any permits or County approvals for this project.

Biologist: Chuck Hughes **Date:** 4-Dec-12

Applicant/Owner: _____ **Date:** _____

Required Attachments: 1) Biologist Qualifications; 2) Site Photos; 3) Project BMPs

SYCAMORE ENVIRONMENTAL CONSULTANTS, INC.
6355 Riverside Blvd., Suite C, Sacramento, CA 95831
916/ 427-0703 Fax 916/ 427-2175

RESUME

CHUCK HUGHES, M.S.
Botanist / Biologist / Arborist

Ten years experience with Sycamore Environmental preparing jurisdictional delineations, biological resource evaluations, protocol botanical and wildlife surveys, arborist surveys, mitigation/restoration plans, and biological sections of CEQA/NEPA documents. Prepares Biological Assessments for ESA consultation, Section 2081 CESA applications, and 404/401/1600 permit applications. He has worked on over 60 Caltrans road and bridge projects, and serves as assistant project manager.

EDUCATION: Michigan State University M.S. Plant Biology, 2003
UC Davis B.S. Environmental Horticulture and Urban Forestry, 1998

CERTIFICATION/ PERMITS/ TRAINING:

- Professional Wetland Scientist 2029
- ISA Certified Arborist WE-6885A
- Authorized on USFWS fairy/tadpole shrimp recovery permit TE-799564-3
- DFG Plant Collecting Permit 2081(a)-12-16-V
- DFG Scientific Collecting Permit SC-7617
- CA Rapid Assessment Method (CRAM) Practitioner Training for wetlands

RELEVANT RECENT PROJECT EXPERIENCE:

Bassi, Alder, & Blair Road Bridges El Dorado County, 2012
Conducted botanical surveys.

Cameron Park Senior Apartments El Dorado County, 2012
Prepared oak canopy retention analysis per County canopy policy and guidelines.

Rubicon Trail at Ellis Creek Crossing El Dorado County, 2008-2010
Conducted fieldwork for wetland delineation, botanical survey, biological resources evaluation, and arborist survey. Prepared Caltrans Natural Environment Study (NES) and Compensatory Mitigation Plan for bridge construction.

Green Valley Road Bridge at Weber Creek El Dorado County, 2007-2010
Conducted fieldwork for wetland delineation, botanical survey, biological resources evaluation, and arborist survey. Assisted with preparation of Caltrans NES for bridge replacement.

No Easy Road El Dorado County, 2009
Creek setback analysis pursuant to County General Plan policies and guidelines.

Terra View Loop Road El Dorado County, 2008
Conducted fieldwork and prepared oak canopy analysis pursuant to County Oak Woodland Mgmt. Plan.

PUBLICATIONS/ THESIS:

Rissman, A. R., S. E. Reed, C. Hughes, and R. Reiner. 2008. Monitoring understory composition of blue oak woodlands on conservation easements. *In* A. Merenlender, D. McCreary, K. L. Purcell, tech eds. 2008. Proceedings of the Sixth Symposium on Oak Woodlands: Today's challenges, tomorrow's opportunities (Part 2), October 9-12, 2006, Rohnert Park, CA. Gen. Tech. Rep. PSW-GTR-217. Pacific Southwest Research Station, U.S. Department of Agriculture, Forest Service, Albany, CA.

Malmstrom, C. M., Hughes, C. C., Newton, L. A. & Stoner, C. J. 2005. Virus infection in remnant native bunchgrasses from invaded California grasslands. *New Phytologist* 168 (1), 217-230. doi: 10.1111/j.1469-8137.2005.01479.x

Hughes, C. C. 2003. The effects of prescribed burning on two Northern California perennial bunchgrass populations. Master Thesis, Department of Plant Biology, Michigan State University, East Lansing, MI

Attachment E. Photographs
26 July 2012

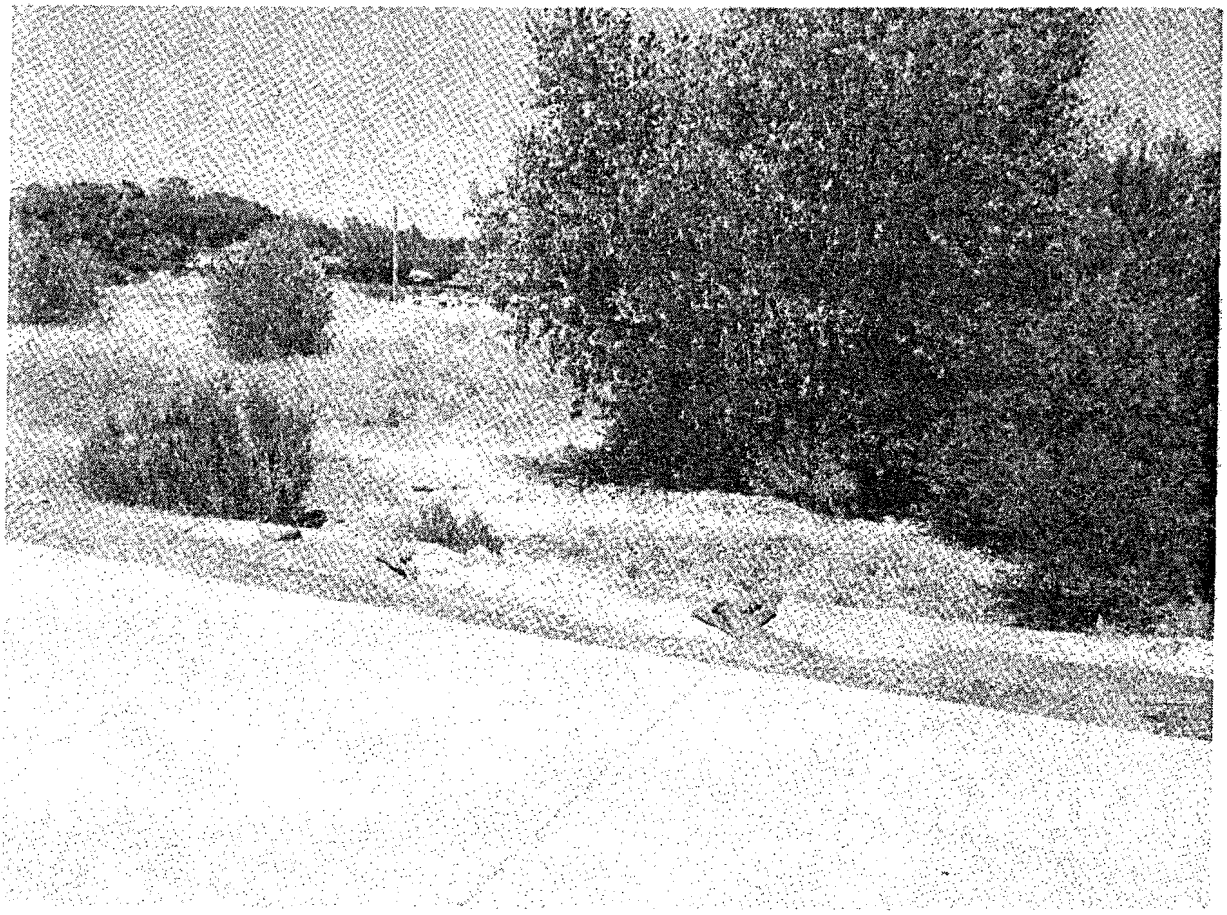


Photo 1. View looking east from Sophia Parkway, at the edge of the riparian corridor. Channel 1 is under the trees on the far right side of the photo.

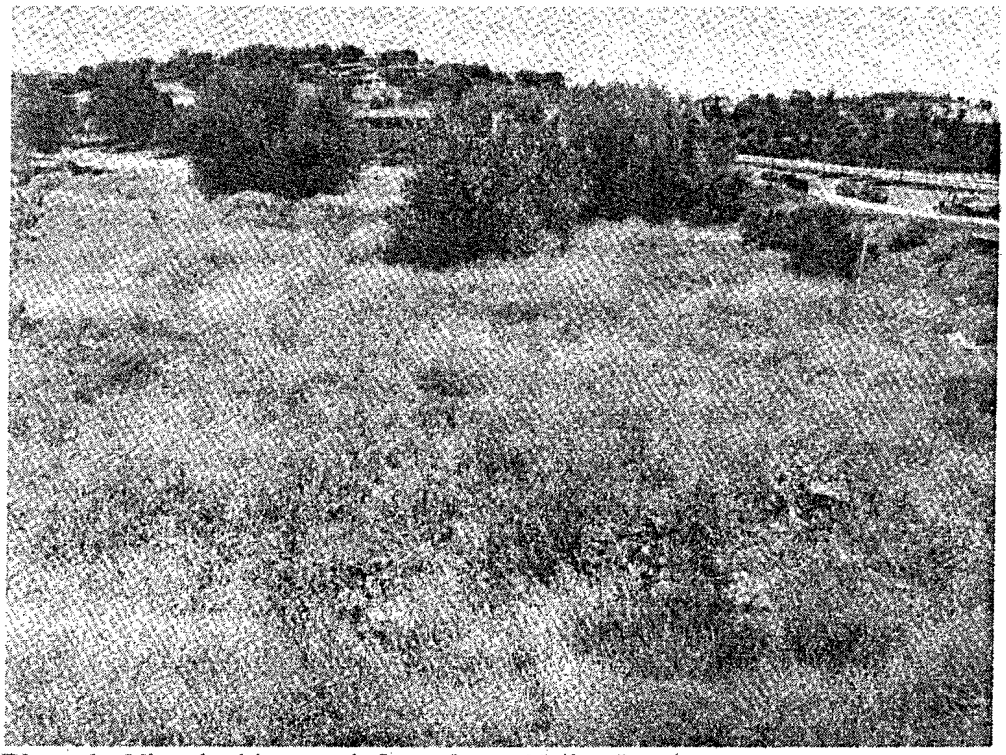


Photo 2. View looking south from Green Valley Road.

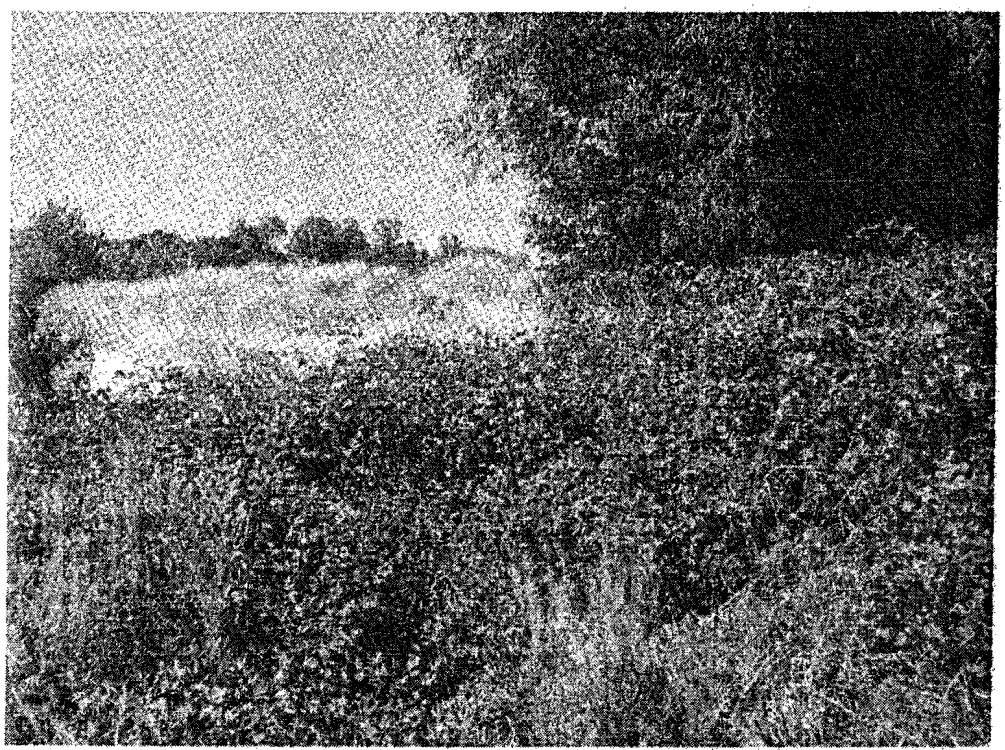


Photo 3. View looking north from Channel 1. The Goodding's black willow in the background on the right would be removed by the project. Some of the Himalayan blackberry patch in the foreground would be removed and a retaining wall would be constructed that would be the southern edge of the project footprint.

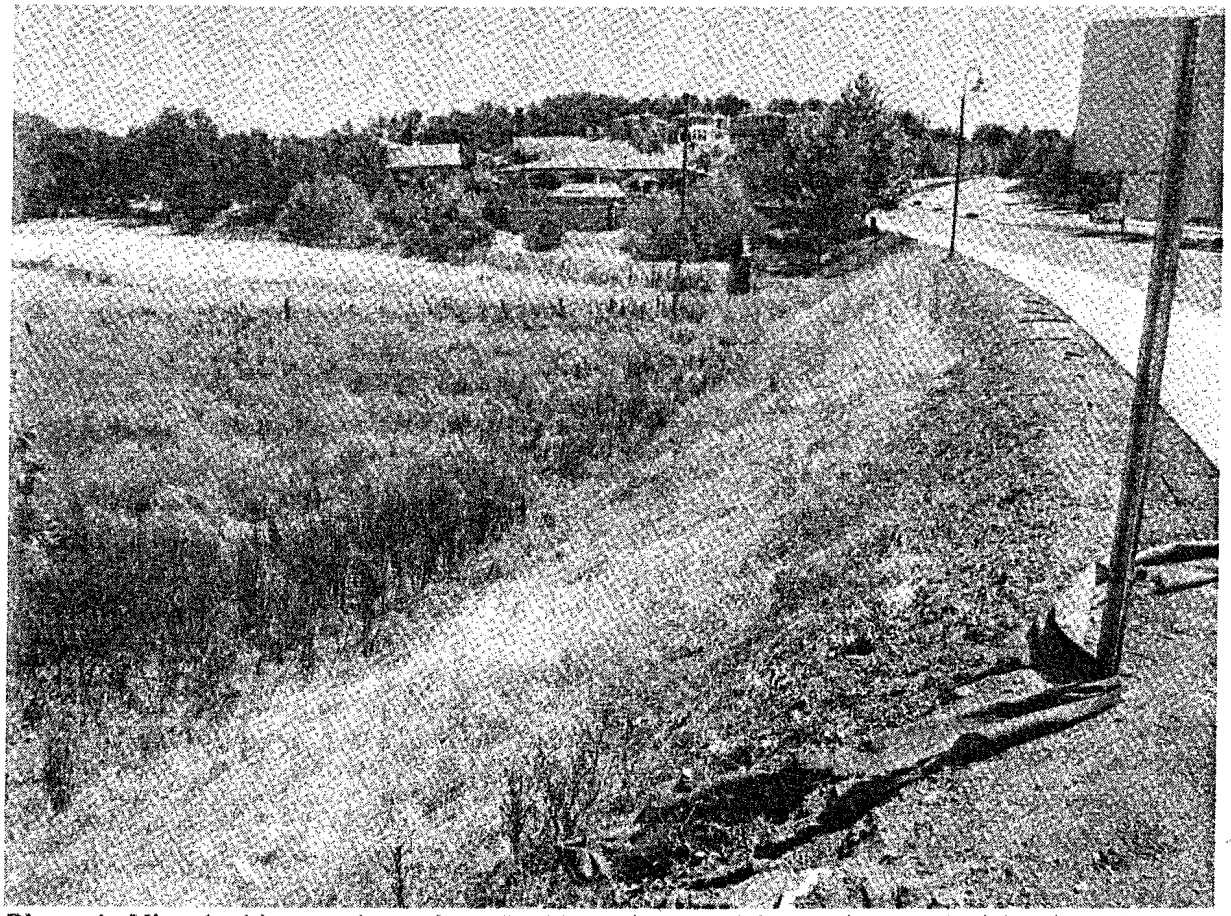


Photo 4. View looking southeast from Sophia Parkway, of the southern end of the site. No construction activities are proposed here. This area is available for planting of riparian trees.

El Dorado County Development Services Department
Building Services

A department policy is based on an interpretation of a code provision and is subject to change based on new information.

POLICY

EFFECTIVE 1/1/08 EXPIRES 12/31/10

Erosion Control for Site Development

In order to comply with state-mandated requirements for storm water runoff, the following items are required for all residential and commercial site development:

Erosion control measures shall be implemented to preserve existing vegetation where possible, and to re-vegetate disturbed open areas after grading and construction. This is necessary to prevent erosion, which is the movement of soil by wind or water.

Sediment control measures shall be implemented to prevent the transportation of eroded material from the site. This requirement prevents the deposition of soil and debris sediment in roadways, drainage systems, and natural watercourses.

FOR PROJECTS UNDER CONSTRUCTION BETWEEN OCT. 15 AND MAY 15:
Sediment control measures shall be in place at all times, maintained regularly, and shall include one or more of the following:

Silt fencing, straw bale dikes, straw wattles, or other approved devices shall be installed adjacent to disturbed areas wherever there is a chance of silt transport. No sediment or muddy water shall leave the construction site. All operational storm drain inlets are effectively protected from sediment inflow.

When runoff is produced from a disturbed area larger than one acre, it shall be routed through an approved detention pond prior to being discharged from the site.

Appropriate materials in quantities sufficient to eliminate the tracking of silt onto the roadway by vehicles shall be placed at all access points to the construction site and maintained at all times.

Cleaning up spillage by washing mud into a drainage system is not permitted.

Construction materials are properly stored (covered when not in use, secondary containment if needed, etc.)

A proper cement/stucco washout containment area is provided and used properly.

Portable toilets are out of the street and way from drainage paths, so that liquids cannot enter the storm drains. Secondary containment may be provided.

Erosion control measures shall be implemented as-soon-as-possible to protect disturbed areas. These measures shall include one or more of the following:

Man-made slopes shall be covered with a properly anchored 2-inch (minimum) blanket of straw, or approved equal.

At the top of man-made slopes, grading shall be done in such a way as to insure that no runoff goes over the face of the slope. This may require a swale, interceptor ditch, earthen berm, or combinations thereof, terminating at an approved location.

Ditches or swales steeper than 10% shall be cobble-lined, or protected with an approved alternate material.

Sites where one acre or more of ground is disturbed are required by State law to obtain a construction storm water permit from the Regional Water Quality Board. A copy of the state storm water permit is required at submittal of a county grading permit.

FAILURE TO COMPLY WITH THESE REQUIREMENTS WILL RESULT IN A STOP WORK NOTICE BEING ISSUED FOR ALL WORK ON SITE. CONTINUED NON-COMPLIANCE WILL RESULT IN RECOURSE TO ALL REMEDIES PROVIDED BY LAW, AND NOTIFICATION TO THE APPROPRIATE STATE AGENCIES OF THE VIOLATION(S). (Having measures in place does not excuse a violation if sedimentation continues.)

FOR PROJECTS UNDER CONSTRUCTION BETWEEN MAY 15 AND OCT. 15:
Sediment control measures shall be utilized whenever a 3-day forecast of rain is made by the National Weather Service any time during the year.

Permanent erosion control measures must be in place prior to final approval of the permitted structure. This shall include one or more of the following:

Man-made slopes shall be hand- or hydro-seeded and covered with properly-anchored straw mulch, or be planted with permanent ground cover.

Ditches or swales steeper than 10% shall be cobble-lined, or protected with an approved alternate material.

All disturbed areas, not otherwise protected, shall have a minimum cover of 2 inches of properly-anchored straw. Rice straw is recommended, as it does not contain unwanted contaminating seeds.

Completion of an underground drain system, where required, such as solid piping connected to gutter downspouts or drain inlets.

Between May 15 and October 1, a cash bond may be posted in lieu of performing the permanent erosion control measures in order to obtain final approval of the permitted structure. The bond must be 150% of the estimated cost of the landscaping work. **However, the bond will expire on October 1, and all erosion control work must be in place by October 15 to avoid penalties.**

FW: PD12-0003 Green Valley Convenience Center-URGENT (UNCLASSIFIED)

Sparks, Genevieve@Waterboards <Genevieve.Sparks@waterboards.ca.gov> Mon, Jul 8, 2013 at 8:04 AM
To: "Tom Dougherty (tom.dougherty@edcgov.us)" <tom.dougherty@edcgov.us>

Hi, Tom -

I am forwarding the email I received from Peck Ha, USACOE, stating that a Clean Water Act Section 404 permit would not be required (and thus, a Clean Water Act Section 401 permit would not need to be obtained). In addition, due to the statement that the waters of the United States within, or adjacent to, the proposed project will be avoided, a Waste Discharge Requirement will not be required by the Central Valley Water Board under the Porter-Cologne Water Quality Control Act. Should the proposed project description change resulting in temporary and/or permanent impacts to the waters of the United States or State, then the project proponent should be re-evaluated by our office.

Thank you,

Genevieve (Gen) Sparks, Environmental Scientist
Storm Water MS4 Program
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670
(916) 464-4745
gsparks@waterboards.ca.gov

----Original Message----
From: Ha, Peck SPK [mailto:Peck.Ha@usace.army.mil]
Sent: Thursday, June 20, 2013 8:11 AM
To: Sparks, Genevieve@Waterboards
Subject: RE: PD12-0003 Green Valley Convenience Center-URGENT (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Section 404 is not required. The project, according to development plans, is avoiding waters of the U.S.
Thanks for the email.

Peck Ha
Project Manager
US Army Corps of Engineers, Sacramento District California North Branch
1325 J Street, Room 1350
Sacramento, California 95814
(916) 557-6617 Fax: (916) 557-6877
peck.ha@usace.army.mil

We want to hear from you! Submit a customer service survey form.
http://per2.nwp.usace.army.mil/survey.html

Need information on the Regulatory Program?
http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/index.html

-----Original Message-----
From: Sparks, Genevieve@Waterboards [mailto:Genevieve.Sparks@waterboards.ca.gov]
Sent: Wednesday, June 19, 2013 5:34 PM
To: Ha, Peck SPK
Subject: FW: PD12-0003 Green Valley Convenience Center-URGENT (UNCLASSIFIED)

Hi, Peck -

Liz is out on leave right now and I'm acting sup for the Water Quality Certification program. In addition, Trevor Cleak is out on vacation this week.

Will USACOE be requiring a 404 permit on this proposed project? We need to know to advise El Dorado County.

Thank you,

Genevieve (Gen) Sparks, Environmental Scientist

Storm Water MS4 Program

Central Valley Regional Water Quality Control Board

11020 Sun Center Drive, Suite 200

Rancho Cordova, CA 95670

(916) 464-4745

gsparks@waterboards.ca.gov <mailto:gsparks@waterboards.ca.gov>

CULTURAL RESOURCE ASSESSMENT

FOR THE PROPOSED ARCO ampm

STATION (PARCEL 2 OF 50 PM 82)

EL DORADO COUNTY, CALIFORNIA

Prepared by

Peak & Associates, Inc.
3941 Park Drive, Suite 20-329
El Dorado Hills, CA 95762
(916) 939-2405

Prepared for

Marc Strauch
The Strauch Companies
301 Natoma Street, Suite 202
Folsom, CA 95630

November 2012
(Job #12-111)

ATTACHMENT 11

According to this review, the project area has never been systematically surveyed. The early General Land Office plat of the township dating to 1866, on file with the Information Center, shows several historical resources in the project vicinity, including the Coloma Road, now Green Valley Road. The Green Valley Road has been recorded as CA-ELD-1193H.

FIELD INSPECTION

On October 31, 2012, the project area was completely surveyed by Melinda Peak (resume attached). Peak used complete coverage with transects no wider than 10 meters. Ground visibility varied from fair to poor, with many portions of the site obscured by piles of dirt and rocks. Map 2 indicates the locations of the features of the site and topography.

There is no evidence of prehistoric or historic period cultural resources within the project area. There was one section of a crushed large diameter pipe (48" diameter), dumped on the property, but clearly not used on the property.

RECOMMENDATIONS

With any surface inspection there is always a remote possibility that previous activities (both natural and cultural) have obscured prehistoric or historic period artifacts or habitation areas, leaving no surface evidence that would permit discovery of these cultural resources. If, during construction activities, unusual amounts of non-native stone (obsidian, fine-grained silicates, basalt), bone, shell, or prehistoric or historic period artifacts (purple glass, etc.) are observed, or if areas that contain dark-colored sediment that do not appear to have been created through natural processes are discovered, then work should cease in the immediate area of discovery and a professionally qualified archeologist should be contacted immediately for an on-site inspection of the discovery.

If any bone is uncovered that appears to be human, then the El Dorado County Coroner must be contacted, according to state law. If the coroner determines that the bone most likely represents a Native American interment, then he must contact the Native American Heritage Commission in Sacramento so that they can identify the most likely descendants.

SYCAMORE ENVIRONMENTAL CONSULTANTS, INC.
6355 Riverside Blvd., Suite C, Sacramento, CA 95831
916/ 427-0703 Fax 916/ 427-2175

4 December 2012

Mr. Marc Strauch
Cameron Park Petroleum, Inc.
301 Natoma Street, Suite 202
Folsom, CA 95630
Phone: 916/ 257-6497

Subject: Greenhouse Gas Analysis for the ARCO Green Valley Road at Sophia Pkwy Project, El Dorado County, CA.

Dear Mr. Strauch:

Sycamore Environmental has evaluated potential greenhouse gas (GHG) impacts resulting from the proposed mixed use development on APN 124-301-46 in El Dorado County, CA. The GHG evaluation documented in this letter will provide the County with the information needed to process your application pursuant to the California Environmental Quality Act (CEQA).

The Project is located on the southeast corner of Green Valley Road and Sophia Parkway on the Clarksville USGS topographic quad, in the El Dorado Hills area. The parcel land use designation is commercial and is zoned commercial, planned development district. Based on the site plans dated 18 September 2012, the Project includes a 2,850 square foot, 8 fueling station gasoline / convenience store, a 1,972 square foot fast food restaurant with drive-through, and a one-bay 1,185 square foot carwash. The Project includes two right-in right-out driveways, one each on Green Valley Road and Sophia Parkway respectively. The Project will construct a new retaining structure estimated to be 10-12 feet tall with associated backfill to bring the existing grade closer to the existing elevations of Green Valley Road and Sophia Parkway. The retaining structure will be located north of the wetland drainage channel identified by survey. The revised grade will accommodate access to the property from the western and northern directions.

CEQA Significance Thresholds

CEQA does not provide clear direction on addressing climate change. It requires lead agencies identify project GHG emissions impacts and their "significance," but is not clear what constitutes a "significant" impact. Not all projects emitting GHG contribute significantly to climate change. CEQA authorizes reliance on previously approved plans (i.e., a Climate Action Plan (CAP), etc.) and mitigation programs adequately analyzing and mitigating GHG emissions to a less than significant level. El Dorado County does not have an adopted CAP or similar program-level document; therefore, the project's GHG emissions must be addressed at the project-level.

ATTACHMENT 12

The El Dorado County Air Quality Management District's (EDCAQMD) has not adopted GHG emissions significance thresholds for land use development projects. Given the lack of locally adopted GHG emissions significance thresholds the EDCAQMD recommends using significance criteria adopted by the San Luis Obispo Air Pollution Control District (SLOAPCD) to determine the significance of GHG emissions for CEQA (pers. comm. A. Baughman). SLOAPCD developed a screening table (Table 1) using CalEEMod which allows quick assessment of projects to "screen out" those below the thresholds as their impacts would be less than significant.

Table 1: SLOAPCD GHG Emissions Significance Thresholds

Significance Determination Thresholds	
GHG Emission Source Category	**Operational Emissions**
Non-stationary Sources	1,150 $MTCO_2e/yr$ OR 4.9 MT $CO_2e/SP/yr$
Stationary Sources	10,000 $MTCO_2e/yr$

SP = service population, which is resident population plus employee population of the project

Methods

As requested by the EDCAQMD the California Emissions Estimator Model (CalEEMod Version 2011.1.1) was used for the estimation and quantification of project-related GHG emissions (pers. comm. A. Baughman). A summary of the model results are in Attachment A.

CalEEMod is a statewide model providing a uniform GHG analysis platform for government agencies, land use planners, and environmental professionals. It quantifies direct emissions from construction and operation (including vehicle use), and indirect emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The software incorporates the most recent vehicle emission factors from the Emission Factors (EMFAC) model provided by the California Air Resources Board (CARB), and average trip generation factors published by the Institute of Transportation Engineers (ITE).

Results

Construction Emissions

Construction emissions were computed for an approximate 6- month construction period occurring in 2013. Construction phases in CalEEMod include demolition, site preparation, grading, building construction, paving, and architectural coating. Construction emissions estimation includes approximately 15,000 cubic yards of imported and 200 cubic yards of exported material. The various construction emissions default values provided by CalEEMod were used unless stated otherwise.

The construction phase is estimated to emit approximately 166 $MTCO_2e/yr$ (Attachment A). CO2e emissions associated with is construction are temporary. The County has not yet quantified thresholds for construction activities. However, the construction emissions would be well below the lowest SLOAPCD threshold.

Operational Emissions

The various operational emissions default values provided by CalEEMod were used unless stated otherwise. Operational emissions assumed to start in 2013. The 'Gasoline/service station' land use subtype was used for the proposed 8 pump fueling station (stationary source). Operational emissions (stationary + non-stationary) of the proposed project are estimated to be approximately 844 $MTCO_2e/yr$ (Attachment A). The operational emissions threshold is 1,150 metric tons/year for non-stationary sources and 10,000 $MTCO_2e/yr$ for stationary sources. The proposed project is below the thresholds.

Summary

As requested by the EDCAQMD, CalEEMod Version 2011.1.1 was used to estimate the construction and operational GHG emission resulting for the proposed project (Attachment A). Modeled GHG emissions for the proposed project are below the screening level for both non-stationary and stationary sources. No further GHG analysis is needed.

If you have any questions, please call me.

Cordially,

Jeffery Little
Vice President

Personal Communications

Mr. Adam Baughman, Air Quality Engineer, El Dorado County Air Quality Management District. 28 and 30 November 2012. Emails and phone conversations regarding GHG analysis and CalEEMod model.

ATTACHMENT A

CalEEMod Version 2011.1.1 Results

El Dorado County, CA

ARCO am/pm El Dorado Hills

El Dorado-Mountain County County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Parking Lot	23	Space
Fast Food Restaurant with Drive Thru	1.97	1000sqft
Gasoline/Service Station	8	Pump

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Utility Company**	Pacific Gas & Electric Company
Climate Zone	1	**Precipitation Freq (Days)**	70		

1.3 User Entered Comments

Project Characteristics -

Land Use - .

Construction Phase - .

Grading -

Energy Use -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.35	1.38	1.31	0.00	0.04	0.07	0.12	0.00	0.07	0.08	0.00	165.35	165.35	0.01	0.00	165.64
Total	**0.35**	**1.38**	**1.31**	**0.00**	**0.04**	**0.07**	**0.12**	**0.00**	**0.07**	**0.08**	**0.00**	**165.35**	**165.35**	**0.01**	**0.00**	**165.64**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	0.35	1.38	1.31	0.00	0.00	0.07	0.08	0.00	0.07	0.08	0.00	165.35	165.35	0.01	0.00	165.64
Total	**0.35**	**1.38**	**1.31**	**0.00**	**0.00**	**0.07**	**0.08**	**0.00**	**0.07**	**0.08**	**0.00**	**165.35**	**165.35**	**0.01**	**0.00**	**165.64**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.06	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	29.12	29.12	0.00	0.00	29.30
Mobile	1.38	1.23	10.27	0.01	0.81	0.03	0.84	0.03	0.03	0.06	0.00	799.84	799.84	0.06	0.00	801.00
Waste						0.00	0.00		0.00	0.00	5.48	0.00	5.48	0.32	0.00	12.28
Water						0.00	0.00		0.00	0.00	0.00	0.99	0.99	0.02	0.00	1.52
Total	**1.44**	**1.24**	**10.28**	**0.01**	**0.81**	**0.03**	**0.84**	**0.03**	**0.03**	**0.06**	**5.48**	**829.95**	**835.43**	**0.40**	**0.00**	**844.10**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.06	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	29.12	29.12	0.00	0.00	29.30
Mobile	1.38	1.23	10.27	0.01	0.81	0.03	0.84	0.03	0.03	0.06	0.00	799.84	799.84	0.06	0.00	801.00
Waste						0.00	0.00		0.00	0.00	5.48	0.00	5.48	0.32	0.00	12.28
Water						0.00	0.00		0.00	0.00	0.00	0.99	0.99	0.02	0.00	1.52
Total	**1.44**	**1.24**	**10.28**	**0.01**	**0.81**	**0.03**	**0.84**	**0.03**	**0.03**	**0.06**	**5.48**	**829.95**	**835.43**	**0.40**	**0.00**	**844.10**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.07	0.05	0.00		0.01	0.01		0.01	0.01	0.00	6.69	6.69	0.00	0.00	6.71
Total	0.01	0.07	0.05	0.00		0.01	0.01		0.01	0.01	0.00	6.69	6.69	0.00	0.00	6.71

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.41	0.00	0.00	0.41
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.41	0.00	0.00	0.41

3.2 Demolition - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.07	0.05	0.00		0.01	0.01		0.01	0.01	0.00	6.69	6.69	0.00	0.00	6.71
Total	0.01	0.07	0.05	0.00		0.01	0.01		0.01	0.01	0.00	6.69	6.69	0.00	0.00	6.71

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.41	0.00	0.00	0.41
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.41	0.00	0.00	0.41

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.64	0.64	0.00	0.00	0.64
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.64**	**0.64**	**0.00**	**0.00**	**0.64**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.02
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.00**	**0.00**	**0.02**

3.3 Site Preparation - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.64	0.64	0.00	0.00	0.64
Total	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.64**	**0.64**	**0.00**	**0.00**	**0.64**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.02
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.00**	**0.00**	**0.02**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	1.34	1.34	0.00	0.00	1.34
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.34**	**1.34**	**0.00**	**0.00**	**1.34**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.07	0.42	0.64	0.00	0.04	0.01	0.05	0.00	0.01	0.01	0.00	59.49	59.49	0.00	0.00	59.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.00	0.00	0.08
Total	**0.07**	**0.42**	**0.64**	**0.00**	**0.04**	**0.01**	**0.05**	**0.00**	**0.01**	**0.01**	**0.00**	**59.57**	**59.57**	**0.00**	**0.00**	**59.63**

3.4 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	1.34	1.34	0.00	0.00	1.34
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.34**	**1.34**	**0.00**	**0.00**	**1.34**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.07	0.42	0.64	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.00	59.49	59.49	0.00	0.00	59.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.00	0.00	0.08
Total	**0.07**	**0.42**	**0.64**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**59.57**	**59.57**	**0.00**	**0.00**	**59.63**

3.5 Building Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.11	0.82	0.54	0.00		0.05	0.05		0.05	0.05	0.00	88.22	88.22	0.01	0.00	88.40
Total	**0.11**	**0.82**	**0.54**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**88.22**	**88.22**	**0.01**	**0.00**	**88.40**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.18	2.18	0.00	0.00	2.19
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.05	2.05	0.00	0.00	2.06
Total	**0.00**	**0.01**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.23**	**4.23**	**0.00**	**0.00**	**4.25**

3.5 Building Construction - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.11	0.82	0.54	0.00		0.05	0.05		0.05	0.05	0.00	88.22	88.22	0.01	0.00	88.40
Total	0.11	0.82	0.54	0.00		0.05	0.05		0.05	0.05	0.00	88.22	88.22	0.01	0.00	88.40

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.18	2.18	0.00	0.00	2.19
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.05	2.05	0.00	0.00	2.06
Total	0.00	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.23	4.23	0.00	0.00	4.25

3.6 Paving - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	3.19	3.19	0.00	0.00	3.20
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.01	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	3.19	3.19	0.00	0.00	3.20

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.37	0.00	0.00	0.37
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.37	0.00	0.00	0.37

3.6 Paving - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.01	0.04	0.02	0.00		0.00	0.00		0.00	0.00	0.00	3.19	3.19	0.00	0.00	3.20
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.01**	**0.04**	**0.02**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**3.19**	**3.19**	**0.00**	**0.00**	**3.20**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.37	0.00	0.00	0.37
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.37**	**0.37**	**0.00**	**0.00**	**0.37**

3.7 Architectural Coating - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.14					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.64	0.64	0.00	0.00	0.64
Total	**0.14**	**0.01**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.64**	**0.64**	**0.00**	**0.00**	**0.64**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.02
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.00**	**0.00**	**0.02**

3.7 Architectural Coating - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.14					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.64	0.64	0.00	0.00	0.64
Total	**0.14**	**0.01**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.64**	**0.64**	**0.00**	**0.00**	**0.64**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.02
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.02**	**0.02**	**0.00**	**0.00**	**0.02**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.38	1.23	10.27	0.01	0.81	0.03	0.84	0.03	0.03	0.06	0.00	799.84	799.84	0.06	0.00	801.00
Unmitigated	1.38	1.23	10.27	0.01	0.81	0.03	0.84	0.03	0.03	0.06	0.00	799.84	799.84	0.06	0.00	801.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Fast Food Restaurant with Drive Thru	977.36	1,422.40	1069.16	984,824	984,824
Gasoline/Service Station	1,302.24	1,302.24	1302.24	750,309	750,309
Parking Lot	0.00	0.00	0.00		
Total	2,279.60	2,724.64	2,371.40	1,735,133	1,735,133

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Fast Food Restaurant with Drive Thru	9.50	7.30	7.30	2.20	78.80	19.00
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	16.52	16.52	0.00	0.00	16.62
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	16.52	16.52	0.00	0.00	16.62
NaturalGas Mitigated	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	12.60	12.60	0.00	0.00	12.68
NaturalGas Unmitigated	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	12.60	12.60	0.00	0.00	12.68
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	232006	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	12.38	12.38	0.00	0.00	12.46
Gasoline/Service Station	4156.19	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**12.60**	**12.60**	**0.00**	**0.00**	**12.68**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Fast Food Restaurant with Drive Thru	232006	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	12.38	12.38	0.00	0.00	12.46
Gasoline/Service Station	4156.19	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.22
Parking Lot	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**12.60**	**12.60**	**0.00**	**0.00**	**12.68**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Fast Food Restaurant with Drive Thru	51429.8					14.96	0.00	0.00	15.06
Gasoline/Service Station	5342.06					1.55	0.00	0.00	1.56
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**16.51**	**0.00**	**0.00**	**16.62**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Fast Food Restaurant with Drive Thru	51429.8					14.96	0.00	0.00	15.06
Gasoline/Service Station	5342.06					1.55	0.00	0.00	1.56
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**16.51**	**0.00**	**0.00**	**16.62**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.06	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.06	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.05					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.06	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.01					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.05					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.06	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.99	0.02	0.00	1.52
Unmitigated					0.99	0.02	0.00	1.52
Total	NA	NA	NA	NA	NA	NA	NA	NA

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Fast Food Restaurant with Drive Thru	0.597961 / 0.0381678					0.99	0.02	0.00	1.52
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						0.99	0.02	0.00	1.52

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Fast Food Restaurant with Drive Thru	0.597961 / 0.0381678					0.99	0.02	0.00	1.52
Parking Lot	0 / 0					0.00	0.00	0.00	0.00
Total						0.99	0.02	0.00	1.52

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					5.48	0.32	0.00	12.28
Unmitigated					5.48	0.32	0.00	12.28
Total	NA	NA	NA	NA	NA	NA	NA	NA

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Fast Food Restaurant with Drive Thru	22.69					4.61	0.27	0.00	10.32
Gasoline/Service Station	4.31					0.87	0.05	0.00	1.96
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**5.48**	**0.32**	**0.00**	**12.28**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Fast Food Restaurant with Drive Thru	22.69					4.61	0.27	0.00	10.32
Gasoline/Service Station	4.31					0.87	0.05	0.00	1.96
Parking Lot	0					0.00	0.00	0.00	0.00
Total						**5.48**	**0.32**	**0.00**	**12.28**

9.0 Vegetation

EL DORADO COUNTY AIR POLLUTION CONTROL DISTRICT

RULE 238 -- GASOLINE TRANSFER AND DISPENSING

(Adopted March 27, 2001)

INDEX

ATTACHMENT 13

RULE 238 GASOLINE TRANSFER AND DISPENSING

238.1 GENERAL

A. **APPLICABILITY:** This rule applies to the transfer of gasoline from any tank truck, trailer, or railroad tank car into any stationary storage tank or mobile fueler; and, from any stationary storage tank or mobile fueler into any mobile fueler or motor vehicle fuel tank.

B. **EXEMPTION, AGRICULTURE:** Transfer of gasoline into or from any stationary storage tank or mobile fueler, with a capacity of 550 gallons or less, if 75 percent or more of its monthly throughput is used for the fueling of implements of husbandry, such as vehicles defined in Division 16 (Section 36000, et seq.) of the California Vehicle Code, is exempt from Phase I and Phase II vapor recovery requirements, provided such tank is equipped with a submerged fill tube.

C. **EXEMPTION, TESTING:** Transfer of gasoline to and from testing equipment is exempt from the requirements of this rule when equipment is being used to verify the efficiency of the vapor recovery system by the CARB, the District, or testing contractors; the accuracy of the gasoline dispensing equipment by the Department of Weight and Measures; and, the fire safety standards by the Fire Department.

D. **EXEMPTION, TANK GAUGING AND INSPECTION:** Any tank may be opened for gauging or inspection when loading operations are not in progress, provided that such tank is not pressurized.

238.2 DEFINITIONS

A. **ALTERED FACILITY** is a Gasoline Transfer and Dispensing Facility with any of the following:

1. The removal or addition of storage tank(s), or changes in the number of fueling positions.

2. The replacement of storage tank(s), dispensing nozzle(s) or other equipment with different characteristics or descriptions from those specified on the existing permit.

B. **BACKFILLING** is the covering of the underground storage tank, piping or any associated components with soil, aggregate or other materials prior to laying the finished surface.

C. **BELLOWS-LESS NOZZLE** is any nozzle that incorporates an aspirator or vacuum assist system and a gasoline vapor capture mechanism at the motor vehicle filler neck, such that vapors are collected at the vehicle filler neck without the need for an interfacing flexible bellows.

D. **BREAKAWAY COUPLING** is a component attached to the coaxial hose, which allows the safe separation of the hose from the dispenser or the hose from the nozzle in the event of a forced removal such as in the case of a "driveoff."

E. **CARB CERTIFIED** or certified by CARB means a Phase I or Phase II vapor recovery system, equipment, or any component thereof, for which the California Air Resources Board (CARB) has evaluated its performance and issued a valid Executive Order pursuant to Health and Safety Code Section 41954. Each component of a system is a separate CARB certified item and cannot be replaced with a non-certified item or other items that are not certified for use with the particular system. Except for qualified repairs, a CARB certified component shall be as supplied by the qualified manufacturer. A rebuilt component shall not be deemed as CARB certified, unless the person who rebuilds the component is authorized by CARB to rebuild the designated CARB certified component.

F. **CLEARLY AND PERMANENTLY MARKED** means an identification of the qualified manufacturer's name, model number, and other required information on a vapor recovery system

component that is legible, and the identification is either directly stamped on or attached to the component using methods or materials that would endure constant long term use.

G. **COAXIAL FILL TUBE** is a submerged fill tube that contains two passages, one within the other. The center passage transfers gasoline liquid to the storage tank and the outer passage carries the gasoline vapors to the tank truck, trailer or railroad tank car.

H. **COAXIAL HOSE** is a hose that contains two passages, one within the other. One of the passages dispenses the liquid gasoline into the vehicle fuel tank while the other passage carries the gasoline vapors from the vehicle fuel tank to the storage tank.

I. **DISPENSER** is a gasoline dispensing unit used for housing the above ground gasoline and vapor recovery piping, the gasoline meters, and to hang gasoline-dispensing nozzles when they are not being used for fueling.

J. **DRY BREAK** or poppetted dry break is a Phase I vapor recovery component that opens only by connection to a mating device to ensure that no gasoline vapors escape from the underground storage tank before the vapor return line is connected and sealed.

K. **DUAL-POINT DESIGN** is a type of Phase I vapor recovery system that delivers gasoline liquid into storage tanks and recovers the displaced vapors through two separate openings on the tank.

L. **FUELING POSITION** is a fuel dispensing unit consisting of nozzle(s) and meter(s) with the capability to deliver only one fuel product at one time

M. **GASOLINE** is any petroleum distillate or petroleum distillate/alcohol blend having a True Vapor Pressure greater than 200 mm Hg (3.9 psi) and less than 760 mm Hg (14.7 psi) at 100 degrees F as determined by ASTM Method D323-89.

N. **GASOLINE TRANSFER AND DISPENSING FACILITY** is a mobile system or a stationary facility, consisting of one or more storage tanks and associated equipment, which receive, store, and dispense gasoline.

O. **GASOLINE VAPORS** are the organic compounds in vapor form displaced during gasoline transfer and dispensing operations, and includes entrained liquid gasoline.

P. **INSERTION INTERLOCK MECHANISM** is any CARB certified mechanism that ensures a tight fit at the nozzle fill pipe interface and prohibits the dispensing of gasoline unless the bellows is compressed.

Q. **LIQUID REMOVAL DEVICE** is a device designed specifically to remove trapped liquid from the vapor passages of a coaxial hose.

R. **LIQUID TIGHT** is a liquid leak rate not exceeding three drops per minute.

S. **MAJOR DEFECT** is a defect in the vapor recovery system or its component, as listed in California Code of Regulations, Title 17, Part III, Chapter 1, Subchapter 8, Section 94006 and as summarized in Attachment A of this rule.

T. **MINOR DEFECT** is a defect in any gasoline transfer and dispensing equipment, which renders the equipment out of good working order, but does not constitute a major defect.

U. **MOBILE FUELER** is any tank truck or trailer that is used to transport and dispense gasoline from an onboard storage tank into any motor vehicle fuel tank.

V. **MOTOR VEHICLE** is any self-propelled vehicle as defined in Section 415 of the California Vehicle Code.

W. **OWNER/OPERATOR** is any person who owns, leases, or operates a gasoline transfer and dispensing facility.

X. **PRESSURE/VACUUM RELIEF VALVE** is a valve that is installed on the vent pipes of the gasoline storage tanks to relieve pressure and vacuum build-up at preset values of pressure and vacuum.

Y. **QUALIFIED MANUFACTURER** is the original equipment manufacturer of the CARB certified vapor recovery system or component, or a rebuilder who is authorized by CARB to rebuild the designated CARB certified component.

Z. **QUALIFIED REPAIR** is a repair or maintenance of the gasoline transfer and dispensing equipment or vapor recovery system component that would restore the function or performance of such equipment/component following the qualified manufacturer's instructions and using only the applicable CARB certified parts supplied by the qualified manufacturer. Unless otherwise authorized by CARB, a repair or maintenance shall not be considered a qualified repair if the action changes the size, shape or materials of construction of any gasoline vapor passage, or if it may otherwise obstruct, hinder, or reduce the recovery of gasoline vapors during operation.

AA. **REBUILD** is an action that repairs, replaces, or reconstructs any part of a component of a vapor recovery system that forms the gasoline vapor passage of the component, or that comes in contact with the recovered gasoline vapors in the component. Rebuild does not include the replacement of a complete component with another CARB certified complete component; nor does it include the replacement of a spout, bellows, or vapor guard of a CARB certified nozzle. The new part shall be CARB certified and as supplied by the qualified manufacturer specifically for the CARB certified nozzle.

BB. **RETAIL GASOLINE TRANSFER AND DISPENSING FACILITY** is any gasoline transfer and dispensing facility subject to the payment of California sales tax for the sale of gasoline to the public.

CC. **SPILL BOX** is an enclosed container around a Phase I fill pipe that is designed to collect gasoline spillage resulting from disconnection between the liquid gasoline delivery hose and the fill pipe.

DD. **SUBMERGED FILL TUBE** is any storage tank fill tube with the highest level of the discharge opening entirely submerged, when the liquid level is 6 inches above the bottom of the tank.

EE. **VAPOR CHECK VALVE** is a valve that opens and closes the vapor passage to the storage tank to prevent gasoline vapors from escaping when the nozzle is not in use.

FF. **VAPOR RECOVERY SYSTEM** is a system installed at a gasoline transfer and dispensing facility for collection and recovery of gasoline vapors displaced or emitted from the stationary storage tanks or mobile fuelers (Phase I) and during refueling of vehicle fuel tanks (Phase II). A Phase II vapor recovery system may be a balance system, which operates on the principle of vapor displacement, a vacuum-assist system, which uses a mechanical vacuum-producing device to create a vacuum, or an aspirator-assist system, which uses an aspirator or eductor to create a vacuum during gasoline dispensing to capture gasoline vapors.

GG. **VAPOR TIGHT** means the detection of less than 10,000 ppm hydrocarbon concentration, as determined by EPA Method 21, using an appropriate analyzer calibrated with methane.

238.3 STANDARDS

A. **GASOLINE TRANSFER INTO STATIONARY STORAGE TANKS AND MOBILE FUELERS (PHASE I):** A person shall not transfer, allow the transfer or provide equipment for the transfer of gasoline from any tank truck or trailer into any stationary storage tank with a

capacity of 250 gallons or more, or any mobile fueler tank of greater than 120 gallons capacity unless all of the following conditions are met:

1. Such stationary storage tank or mobile fueler tank is equipped with a "CARB certified" submerged fill tube.

2. Such stationary storage tank or mobile fueler tank is equipped with a "CARB certified" vapor recovery system capable of recovering or processing displaced gasoline vapors by at least 95%, or having a minimum volumetric efficiency of 98% and an emission factor not exceeding 0.15 pounds per 1,000 gallons, as applicable. The vapor recovery system shall be maintained and operated according to the manufacturer's specifications and the applicable CARB Executive Orders.

3. All vapor return lines are connected between the tank truck, trailer, or railroad tank car and the stationary storage tank or mobile fueler. In addition, all associated hoses, fittings, and couplings are maintained in a liquid-tight and vapor-tight condition.

4. The hatch on any tank truck, trailer, or mobile fueler shall be equipped with a vapor tight cover during gasoline transfer and pumping. The hatch shall not be opened except for visual inspection, which may be performed after at least three minutes following the completion of the gasoline transfer or pumping. Except otherwise specified by CARB, visual inspection shall be completed in three minutes or less.

5. The fuel delivery lines shall be maintained liquid tight, vapor tight, and free of air ingestion. A fuel delivery that is free of air ingestion is determined by observing the fuel stream as clear and free of air bubbles through the sight windows on the delivery system, except during the initial and final 60 seconds of fuel transferring.

6. The following equipment shall be installed, operated and maintained as specified below:

    a. All fill tubes are equipped with vapor tight caps;

    b. All dry breaks are equipped with vapor tight seals and vapor tight caps;

    c. All CARB certified coaxial fill tubes are spring-loaded and operated so that the vapor passage from the stationary storage tank or the mobile fueler back to the tank truck or trailer is not obstructed;

    d. The fill tube assembly, including fill tube, fittings and gaskets, is maintained to prevent vapor leakage from any portion of the vapor recovery system;

    e. All stationary storage tank or mobile fueler vapor return lines without dry breaks are equipped with vapor tight caps;

    f. Each vapor tight cap is in a closed position except when the fill tube or dry break it serves is actively in use; and,

    g. Each gasoline delivery elbow is equipped with sight windows.

7. When an underground stationary storage tank is installed or replaced at any gasoline transfer and dispensing facility, a "CARB certified" spill box shall be installed. The spill box shall be maintained free of standing liquid, debris and other foreign matter, and be equipped with an integral drain valve or other devices that are certified by CARB to return spilled gasoline to the underground stationary storage tank. The drain valve shall be maintained closed and free of vapor emissions at all times except when the valve is actively in use.

8. No coaxial Phase I systems certified by CARB prior to January 1, 1994, may be installed on new or modified tanks, except specified otherwise in the applicable CARB Executive Order.

9. All new Phase I systems must be equipped with a CARB-certified anti-rotational coupler or swivel adapter.

B. **GASOLINE TRANSFER INTO VEHICLE FUEL TANKS (PHASE II)**: A person shall not transfer, allow the transfer of, or provide equipment for the transfer of gasoline from a stationary storage tank, with a capacity of 250 gallons or greater, or a mobile fueler, with a capacity of 120 gallons or greater, into any mobile fueler with a capacity of 120 gallons or greater or any motor vehicle fuel tank with a capacity of 5 gallons or greater unless all of the following conditions are met:

1. The dispensing unit used to transfer the gasoline is equipped with a CARB certified vapor recovery system capable of recovering or processing displaced gasoline vapors by at least 95%, or having an emission factor not exceeding 0.38 pounds per 1,000 gallons, as applicable.

2. The vapor recovery system and associated components are operated and maintained in accordance with the manufacturer's specifications and the applicable CARB certification. The system and associated components shall be vapor tight and liquid tight at all times.

3. Equipment subject to this rule is operated and maintained without any major defects.

4. Each balance-system nozzle is equipped with a CARB certified insertion interlock mechanism and a CARB certified vapor check valve located in the nozzle.

5. Each gasoline-dispensing nozzle is equipped with a CARB certified coaxial hose.

6. Unless otherwise specified in the applicable CARB Executive Order, all liquid removal devices installed for any gasoline-dispensing nozzle shall be CARB certified with a minimum liquid removal rate of five milliliters per gallon transferred.

7. The breakaway coupling is CARB certified. Any breakaway coupling that is installed after April 21, 2001, shall be equipped with a poppet valve, which shall close and maintain the gasoline vapor and liquid lines both vapor tight and liquid tight when the coupling is separated. In the event of a separation due to a "driveoff", the owner/operator shall complete one of the following and document the activities pursuant to Section 238.5 G.

   a. Conduct a visual inspection of the effected equipment and perform qualified repairs on any damaged components before placing any effected equipment back in service. In addition, the applicable reverification tests pursuant to Section 238.5 B.1., or equivalent test methods as approved in writing by the APCO and CARB, shall be conducted and successfully passed within 24 hours after the effected equipment is placed back in service; or

   b. Conduct a visual inspection of the effected equipment and replace the effected nozzles, coaxial hoses, breakaway couplings, and any other damaged components with new or CARB certified rebuilt components, before placing any of the effected equipment back in service.

8. A person shall not install or operate a vapor recovery nozzle unless it is equipped with a coaxial hose.

9. A person shall not install or operate a gasoline dispenser at a gasoline dispensing facility unless the connection between the riser and the dispenser cabinet is constructed from either galvanized piping or flexible tubing that is listed for use with gasoline. The nominal diameter of this connector shall not be less than 1 inch.

10. No person shall install a vacuum assist Phase II vapor recovery system unless it has been certified by CARB to be compatible with ORVR.

11. Liquid retain from any nozzle shall not exceed 100 ml per 1,000 gallons dispensed or the quantity specified in CARB Certification Procedure CP-201, whichever is less.

12. Spitting from any nozzle shall not exceed 1.0 ml per nozzle per test or the quantity specified in CARB Certification Procedure CP-201, whichever is less.

C. **ADDITIONAL REQUIREMENTS**

1. A person shall not supply, offer for sale, sell, install, or allow the installation of any vapor recovery system or any of its components, unless the system and components are CARB certified. Each vapor recovery system and its components shall be clearly and permanently marked with the qualified manufacturer's name and model number as certified by CARB. In addition, the qualified manufacturer's unique serial number for each component shall also be clearly and permanently marked for the dispensing nozzles. Any qualified manufacturer who rebuilds a component shall also clearly and permanently mark the corresponding information on the component.

2. For a breakdown (as defined in Rule 101) of a central vapor incineration or processing unit, the provisions of Rule 516 shall apply.

3. A person s hall not perform or allow the "pump-out" (bulk transfer) of gasoline from a storage tank subject to Section 238.3 A. unless such bulk transfer is performed using a vapor collection and transfer system capable of returning the displaced vapors to the stationary storage tank.

4. The owner/operator shall conspicuously post the District-required signs specified in Attachment B of this rule in the immediate gasoline dispensing area.

5. For a dispenser that is not to be used to fuel motor vehicles, the owner/operator shall have a sign posted on it stating such, and shall not allow for it to be used to fuel motor vehicles.

6. A person shall not store, or allow the storage of, gasoline in any stationary storage tank with a capacity of 250 gallons or more, or any mobile fueler with a capacity of 120 gallons or more, unless the vent pipe of the tank complies with all of the following:

   a. The vent pipe opening is equipped with a CARB certified pressure/vacuum relief valve.

   b. The vent pipe opening for a stationary storage tank is at least 12 feet above the driveway level used for tank truck filling operations.

   c. Unless otherwise specified in the applicable CARB Executive Order, the pressure/vacuum relief valve for an underground storage tank vent shall be set for pressure relief at 3.0 plus or minus 0.5 inches water column and vacuum relief at 8.0 plus or minus 2.0 inches water column. The valves for vents on aboveground tanks and mobile fuelers shall meet the specifications in the applicable CARB Executive Order.

d. Effective January 1, 2002, pressure/vacuum relief valves for stationary storage tanks, as supplied and installed, shall be color-coded or otherwise clearly marked to identify the pressure and vacuum settings. The color codes or marks shall be legible to ground-level observers.

e. For the purpose of this requirement, vent pipes of gasoline storage tanks may be manifolded to a single valve, when the stationary storage tanks are manifolded according to the applicable CARB Executive Order.

7. A person shall not store gasoline in open container(s) of any size or handle gasoline in any manner (spillage, spraying, etc.) that allows gasoline liquid or gasoline vapors to enter the atmosphere, contaminate the ground or groundwater, or the enter the sewer system.

8. The failure of an owner/operator to meet any requirements of Section 238.3 of this rule shall constitute a violation. Such non-compliant equipment shall be tagged "Out of Order".

9. Except during active repair activity, the "Out of Order" tag specified in Section 238.3 C.8. shall not be removed and the non-compliant equipment shall not be used, allowed to be used, or provided for use unless all of the following conditions are satisfied:

a. The non-compliant equipment has been repaired, replaced, or adjusted, as necessary; and,

b. The non-compliant equipment has been reinspected and/or authorized for use by the APCO or his designee.

10. The owner/operator shall repair or replace any vapor recovery component having minor defects within seven days, pursuant to Section 41960.2(e) of the California Health and Safety Codes.

11. The owner/operator shall have all underground storage tank installation and associated piping configuration inspected by the APCO or his designee prior to backfilling, to verify that all underground equipment is properly installed in accordance with the requirements specified in the applicable CARB Executive Order. The owner/operator shall notify the District by telephone or other District approved method, and obtain a confirmation number at least three business days prior to the backfilling. All piping shall be supported with pea gravel up to the midpoint of the pipe.

12. No later than December 31, 2001, the owner/operator of a gasoline transfer and dispensing facility shall implement a maintenance program and document the program in an operation and maintenance (O&M) manual for the vapor recovery system. The O&M manual shall be kept at the facility and made available to any person who operates, inspects, maintains, repairs, or tests the equipment at the facility as well as the District personnel upon request. The O&M manual shall contain detailed instructions that ensure proper operation and maintenance of the vapor recovery system and its components in compliance with all applicable rules and regulations. The manual shall, at a minimum, include the following information:

a. All applicable CARB Executive Orders, Approval Letters, and District Permits.

b. The manufacturer's specifications and instructions for installation, operation, repair and maintenance required pursuant to CARB Certification Procedure CP-201, and any additional instructions provided by the manufacturer.

c. System and/or component testing requirements, including test schedules and passing criteria for each of the standard tests listed under Section 238.5 I. The owner/operator may include any non-CARB required diagnostic and other tests as part of the testing requirements.

d. Additional O&M instructions, if any, that are designed to ensure compliance with the applicable rules, regulations, CARB Executive Orders and District permit conditions, including replacement schedules for failure or wear prone components.

D. **POSTING OF OPERATING INSTRUCTIONS:** Each gasoline dispensing facility utilizing a Phase II system shall conspicuously post operating instructions specific to the system in use in the gasoline dispensing area. The instructions shall clearly describe how to fuel vehicles correctly with the vapor recovery nozzles utilized at the station. The instructions shall also include a warning that topping off is prohibited, and may result in spillage or recirculation of gasoline.

E. **CONTINGENT VAPOR RECOVERY REQUIREMENT:** Facilities that are equipped with Phase II vapor recovery must also be equipped with Phase I vapor recovery.

F. **REQUIREMENTS FOR NEW OR MODIFIED PHASE II INSTALLATIONS:** Effective as prescribed by California Code of Regulations Title 17, Section 94011, no person shall install or modify a Phase II vapor recovery system unless all new equipment is CARB-certified to meet the following emission limitations without any maintenance being performed on that equipment for 90 days prior to the certification test:

1. The total emission rate for organic compounds from the nozzle/fill pipe interface, storage tank vent pipes, and pressure-related fugitives shall not exceed 0.42 pounds per 1,000 gallons of gasoline dispensed.

2. The emission rate for organic compounds from spillage shall not exceed 0.42 pounds per 1,000 gallons of gasoline dispensed.

3. The emission rate for organic compounds from liquid retain and spitting shall not exceed 0.42 pounds per 1,000 gallons of gasoline dispensed.

G. **HOLD OPEN LATCH REQUIREMENTS:** A person shall not operate a nozzle that dispenses gasoline at a retail gasoline dispensing facility or a gasoline dispensing facility operated by the state or any county, city and county, or city unless the nozzle is equipped with an operating hold open latch. Any hold open latch determined to be inoperative may be repaired or replaced by the owner or operator within 48 hours of notification by the APCO or fire marshal without any fines or penalty action.

238.4 ADMINISTRATIVE REQUIREMENTS

A. **SELF-COMPLIANCE PROGRAM REQUIREMENTS:** The owner/operator of any retail gasoline transfer and dispensing facility shall implement a District-approved self-compliance program as follows:

1. The self-compliance program shall include the following elements:

a. Daily maintenance inspections shall be conducted in accordance with the protocol specified in Attachment C to ensure proper operating conditions of all components of the vapor recovery systems.

b. Periodic compliance inspections shall be conducted at least once every twelve months and in accordance with the protocol specified in Attachment D to verify

the compliance with all applicable District rules and regulations, as well as all permit conditions.

2. Any equipment with major defect(s) which are identified during the daily maintenance inspections or periodic compliance inspections shall be removed from service, repaired, brought into compliance, and duly entered into the repair logs required under Section 238.5 G. before being returned to service.

3. Defects discovered during self-inspection and repaired shall not constitute a violation.

4. Any new self-compliance program or revisions to the existing self-compliance program as specified in Section 238.4 A.1 shall be submitted in writing to the District for approval before implementation.

5. Training and Certification

   a. Beginning September 1, 2001, a person shall not conduct daily maintenance inspections specified in Section 238.4 A.1.a. unless such person has satisfactorily completed an appropriate District-approved training program.

   b. Beginning September 1, 2001, a person shall not conduct periodic compliance inspections specified in Section 238.4 A.1.b. unless such person has satisfactorily completed an appropriate District-approved training program in the inspection and maintenance of vapor recovery systems.

238.5 MONITORING AND RECORDS

A. **NEW INSTALLATION:** Within 30 calendar days of the initial operation of a new or altered gasoline transfer and dispensing facility, the owner/operator shall conduct and successfully pass the performance tests required by the applicable CARB Executive Orders and District Permit, in accordance with the test methods specified in Section 238.5 I. to verify the proper installation and operation of Phase I and Phase II vapor recovery systems.

B. **REVERIFICATION:** The owner/operator shall conduct and successfully pass the applicable reverification tests in accordance with the test methods specified in Section 238.5 I. to verify the proper operation of the vapor recovery system as follows:

1. Except as specified in the applicable CARB Executive Orders, the reverification tests shall include the following, as applicable:

   a. Static pressure (leak decay) test (Phase I and Phase II systems).

   b. Air-to-liquid (A/L) ratio test (facility with bellows-less nozzles).

   c. Dynamic pressure (back-pressure) test (All Phase II systems).

   d. Liquid removal test (systems with a liquid removal device required by CARB Executive Orders).

2. The reverification tests at retail gasoline transfer and dispensing facilities shall be conducted no less frequently than as scheduled below, based on the facility's maximum monthly gasoline throughput during the 12-month period immediately preceding the required test:

   a. The owner/operator of a facility with a maximum monthly throughput of 100,000 gallons or greater shall complete and pass the reverification tests no less

frequently than every six months, with the first test being no later than June 1, 2001

b. The owner/operator of a facility with a maximum monthly throughput less than 100,000 gallons shall complete and pass the reverification tests no less frequently than every 12 months, with the first test being no later than August 1, 2001.

3. The owner/operator of a non-retail gasoline transfer and dispensing facility shall complete and pass the reverification tests no less frequently than every 12 months, with the first test being no later than October 1, 2001.

C. **TESTERS:** A person who conducts performance or reverification tests shall comply with all of the following:

1. Conduct performance or reverification tests in accordance with the applicable test methods listed in Section 238.5 I. and other CARB testing procedures. Tests shall be conducted using calibrated equipment meeting the calibration range and calibration intervals specified by the manufacturer.

2. Notify the District by telephone or other District approved methods and obtain a confirmation number at least ten business days prior to testing, except as specified in Section 238.5 D. Notwithstanding, the ten-day notice may not be required for reverification tests conducted after a driveoff pursuant to Section 238.3 B.7.a., provided that the person conducting the tests complies with all other applicable provisions of the rule.

3. Conduct the tests during business hours Monday through Friday, unless written approval to deviate from normal testing hours is received from the APCO in advance of the testing.

4. Submit a copy of the test report in a District approved format to the APCO within 48 hours after each test is conducted. The test report shall include all the required records of tests, test data, a statement whether the system or component tested meets or fails to meet the required standards, and the name and signature of the person responsible for conducting the tests and the company the tester is employed by. The person responsible for conducting the tests shall have completed a District approved class for testing and any subsequent refresher classes as required.

D. **RETESTING:** Notwithstanding Section 238.5 C.2., the owner/operator of a gasoline transfer and dispensing facility that has failed a reverification test or any portion thereof may retest the facility prior to resuming operation provided that the person conducting the tests has complied with one of the following:

1. Notify the District by telephone or other District approved methods and obtain a confirmation number at least 24 hours prior to retesting (at least nine of the hours shall be regular District business hours); or

2. If repairs are performed during the same day the facility failed any reverification tests, the owner/operator may retest the facility on the same day without re-notification, provided that the reasons for the test failure and any repairs performed are documented in the test reports and the repair logs, pursuant to Sections 238.5 G.2. and 238.5 G.3.

E. **PARTIAL CLOSURE:** The owner/operator shall not operate or resume operation of a gasoline transfer and dispensing facility, unless the facility has successfully passed the applicable performance or reverification tests. Notwithstanding the above, when a dispenser, associated with any equipment that has failed a reverification test, is isolated and shut down, the owner/operator may continue operation or resume operation of the remaining equipment at the facility, provided

the remaining equipment passed the reverification tests and is unaffected by the shut down equipment. All test results and the method of isolating the defective equipment shall be documented in the test reports to be submitted to the APCO pursuant to Section 238.5 G.3.

F. **THROUGHPUT SUBMISSION:** The owner/operator shall submit the facility's monthly gasoline throughput data to the APCO in conjunction with the reverification test report for each testing and reporting period.

G. **RECORDKEEPING:** A person who performs self-compliance inspections, repairs, or testing at any gasoline transfer and dispensing facility (including, but not limited to, the activities for normal operation and maintenance, performance testing, reverification testing, and those following a driveoff) shall provide to the owner/operator all records listed below, as applicable, at the end of each day when the service is provided. The owner/operator shall maintain all records listed below and any other test results or maintenance records that are required to demonstrate compliance on site for a period of at least five years. Notwithstanding, records for non-retail gasoline dispensing facilities that are unmanned may be kept at other locations approved by the APCO. All records shall be made available to the District personnel upon request both on site during inspections and offsite as specified.

1. Records of all defective components identified or repaired during self-compliance inspections.

2. Repair logs, which shall include:

   a. Date and time of each repair.

   b. The name of the person(s) who performed the repair, and, if applicable, the name, address, and telephone number of the person's employer.

   c. Description of service performed.

   d. Each component that was repaired, serviced, or removed, including the required component identification information pursuant to Section 238.3 C.1.

   e. Each component that was installed as replacement, if applicable, including the required component identification information pursuant to Section 238.3 C.1.

   f. Receipts for parts used in the repair and, if applicable, work orders, which shall include the name and signature of the person responsible for performing the repairs.

3. Records of tests, which shall include:

   a. Date and time of each test.

   b. District confirmation number of each notification.

   c. Name, affiliation, address, and telephone number of the person(s) who performed the test.

   d. Test data and calibration data for all equipment used.

   e. Date and time each test is completed and the facility owner/operator is notified of the results. For a test that fails, a description of the reasons for the test failure shall also be included.

f. For a retest following a failed performance or reverification test, description of repairs performed pursuant to Section 238.5 G.2.

g. Copies of test reports in a District approved format.

4. Monthly gasoline throughput records.

H. **BURDEN OF PROOF:** The burden of proof of eligibility for exemption from any section of this rule is on the owner/operator. Anyone seeking an exemption shall maintain records necessary to support such exemption and furnish them to District personnel upon request.

I. **TEST METHODS:** The performance and reverification tests shall be conducted in accordance with the following test methods. All test methods referenced in this section shall be the most recently CARB approved version or as stated in the applicable CARB Executive Orders.

1. The static pressure performance of a Phase I or Phase II vapor recovery system for underground and above ground tanks shall be determined by the CARB Test Procedure TP-201.3 and TP-201.3B, as applicable.

2. The dynamic pressure performance of a Phase II vapor recovery system shall be determined by the CARB Test Procedure TP-201.4.

3. The air-to-liquid volume ratio of a Phase II vapor recovery system shall be determined by the CARB Test Procedure TP-201.5.

4. The liquid removal rate of a Phase II vapor recovery system shall be determined by the CARB Test Procedure TP-201.6.

5. Any other test methods approved by the USEPA, CARB, and the District for underground tanks, aboveground tanks, and mobile fuelers.

Adopted: **March 27, 2001**

Amended:

Rescinded:

ATTACHMENT A

CALIFORNIA CODE OF REGULATIONS, SECTION 94006
SUBCHAPTER 8, CHAPTER 1, PART III OF TITLE 17

94006. Defects Substantially Impairing the Effectiveness of Vapor Recovery Systems Used in Motor Vehicle Fueling Operations.

For the purposes of Section 41960.2 of the Health and Safety Code, the following constitute equipment defects in systems for the control of gasoline vapors resulting from motor vehicle fueling operations which substantially impair the effectiveness of the systems in reducing air contaminants:

a. Absence or disconnection of any component required to be used in the Executive Order(s) that certified the system.
b. A vapor hose which is crimped or flattened such that the vapor passage is blocked, or the pressure drop through the vapor hose exceeds by a factor of two or more the requirements in the system certified in the CARB Executive Order(s) applicable to the system.
c. A nozzle bellows which is torn in one or more of the following manner:
    1. triangular-shaped or similar tear 1/2 inch or more to a side, or hole 1/2 inch or more in diameter or,
    2. Slit 1 inch or more in length.
d. Faceplate or flexible cone which is damaged in the following manner:
    1. For balance nozzles and for nozzles for aspirator and educator-assist type systems, damage shall be such that the capability to achieve a seal with a fill pipe interface is affected for 1/4 of the circumference of the faceplate (accumulated).
    2. For nozzles for vacuum assist-type systems, more than 1/4 of the flexible cone missing.
e. Nozzle shutoff mechanisms which malfunction in any manner.
f. Vapor return lines, including such components as swivels, anti-recirculation valves and underground piping, which malfunction or are blocked, or restricted such that the pressure drop through the lines exceeds by factor of two or more requirements specified in the Executive Order(s) that certified the system.
g. Vapor processing unit which is inoperative.
h. Vacuum producing device which is inoperative.
i. Pressure/vacuum relief valves, vapor check valves, or dry breaks which are inoperative.
j. Any equipment defect which is identified in an Executive Order certifying a system pursuant to the Certification Procedures incorporated in Section 94001 of Title 17, California Code of Regulations, as substantially impairing the effectiveness of the system in reducing air contaminants.

All nozzles affected by the above defects are to be considered defective.

NOTE: Authority Cited: Sections 39600, 39601, 41960.2, Health and Safety Code.

ATTACHMENT B

DISTRICT REQUIRED SIGNS

A. The operator shall post nozzle operating instructions and the following signs:

1. ARB toll-free telephone number:

"If you have nozzle problems, please call the Air District at the toll-free number (800) 952-5588" or equivalent information approved if in writing by the APCO; and

2. A "warning" stating:

"TOXIC RISK - FOR YOUR OWN PROTECTION
DO NOT BREATHE FUMES
DO NOT TOP TANKS"

B. All required signs shall conform to all of the following:

1. For decal signs:
   a. Each sign shall be visible from all fueling positions it serves; and,
   b. Sign shall be readable from a distance of 3 feet.
2. All other signs:
   a. For pump toppers, one double-back sign per island;
   b. For permanent (non-decal) signs, two single-sided or one double-sided sign(s) per two (2) dispensers; and,
   c. Be readable from a distance of at least 6 feet.

ATTACHMENT C

DAILY MAINTENANCE INSPECTION PROTOCOL

The owner/operator of a retail gasoline transfer and dispensing facility shall at minimum verify the following during the daily maintenance inspections:

A. PHASE I VAPOR RECOVERY SYSTEM INSPECTION

1. The spill container is clean and does not contain gasoline. The spill containment drain valve shall be vapor-tight.
2. The fill caps are not missing, damaged or loose.
3. If applicable:
   a. the spring-loaded submerged fill tube seals properly against the coaxial fitting
   b. the dry break (poppet valve) is not missing or damaged.
4. The submerged fill tube is not missing or damaged.

B. PHASE II VAPOR RECOVERY SYSTEM INSPECTION

1. The fueling instructions are clearly displayed with the appropriate toll-free complaint phone number and toxic warning signs.
2. The following nozzle components are in place and in good condition, as specified in CARB Executive Orders:
   a. faceplate/facecone; vapor splash guard/fill guard/efficiency compliance device (ECD)/VEG
   b. bellows
   c. latching device spring
   d. vapor check valve
   e. spout (proper diameter/vapor collection holes)
   f. insertion interlock mechanism
   g. automatic shut-off mechanism
   h. hold open latch
3. The hoses are not torn, flattened or crimped.
4. For vacuum-assist systems, the vapor processing unit and burner are functioning properly.

C. RECORDS OF DEFECTIVE COMPONENTS

ATTACHMENT D

PERIODIC COMPLIANCE INSPECTION PROTOCOL

The owner/operator of a retail gasoline transfer and dispensing facility shall at minimum verify the following during the periodic compliance inspections:

A. GENERAL INSPECTION

1. The District permit is current.
2. The equipment and District permit description match.
3. The facility complies with all permit conditions.
4. The required sign is properly posted and the sign contains all the necessary information. (I.e. toll-free compliant phone number, toxic warning sign, etc.)

B. PHASE I VAPOR RECOVERY SYSTEM INSPECTION

1. The spill container is clean and does not contain gasoline.
2. The fill caps are not missing, damaged or loose.
3. If applicable:
   a. the spring-loaded submerged fill tube seals properly against the coaxial fitting
   b. the dry break (poppet valve) is not missing or damaged.
4. The submerged fill tube is not missing or damaged.
5. The distance between the highest level of the discharge opening of the submerged fill tube and the bottom of the stationary storage tank does not exceed six inches (6").
6. The Phase I vapor recovery system complies with required CARB certification and is properly installed.
7. The spill box complies with required CARB certification and is properly installed.
8. The vent pipes are equipped with required pressure/vacuum relief valves.

C. PHASE II VAPOR RECOVERY SYSTEM INSPECTION

1. The fueling instructions are clearly displayed.
2. Each nozzle is the current CARB-certified model.
3. Each nozzle is installed in accordance with the applicable CARB Executive Orders.
4. The following nozzle components are in place and in good condition, as specified in CARB Executive Orders or Attachment A or Health and Safety Code Section 41960.2 (e):
   a. faceplate/facecone; vapor splash guard/fill guard/efficiency compliance device (ECD)
   b. bellows
   c. latching device spring
   d. vapor check valve
   e. spout (proper diameter/vapor collection holes)
   f. insertion interlock mechanism
   g. automatic shut-off mechanism
   h. hold open latch
5. The hoses are not torn, flattened or crimped.
6. The vapor recovery hoses are the required size and length.
7. The hoses with retractors are adjusted to maintain a proper loop, and the bottom of the loop is within the distance from the island surface certified by the CARB Executive Order for that particular dispenser configuration.
8. The vapor recovery nozzles are equipped with required hoses.
9. The bellows-equipped vapor recovery nozzles are equipped with CARB certified insertion interlock mechanisms.
10. If required, the flow limiter is not missing and is installed properly.
11. The swivels are not missing, defective, or leaking, and the dispenser-end swivels, if applicable, are Fire-Marshall approved with 90-degree stops.

12. If required, the liquid removal devices comply with required CARB certifications and are properly installed.
13. For bellows-less nozzles, the hoses are inverted coaxial type except for Hirt systems, and the vapor collection holes are not obstructed.
14. For vacuum-assist systems, the vapor processing unit and burner are functioning properly.
15. For aspirator-assist systems, the major components (i.e. aspirator or jet pump, modulating valve, and vapor check valve) are present inside each dispenser.
16. For aspirator-assist systems with certification-required calibration stickers, the current calibration sticker is present.

Environmental Noise Analysis

ARCO AM/PM Car Wash at Green Valley Road & Sophia Parkway

El Dorado Hills, California

BAC Job # 2012-063

Prepared For:

Barghausen Consulting Engineers, Inc.

Attn: Mr. Eric Ramsing

Prepared By:

Bollard Acoustical Consultants, Inc.

Paul Bollard, President

July 18, 2013

ATTACHMENT 14

BOLLARD
Acoustical Consultants

3551 Bankhead Road ▸ Loomis, CA 95650 ▸ Phone: (916) 663-0500 ▸ Fax: (916) 663-0501 ▸ BACNOISE.COM

Introduction

The proposed ARCO AM/PM gas station, convenience store, car wash, and drive-through (project) is located at the southeast corner of the Green Valley Road and Sophia Parkway intersection in El Dorado Hills, California. Existing land uses in the immediate project vicinity include commercial uses to the east, future commercial uses to the west, existing residential to the south, and future residential to the southwest. The project site area and nearest noise-sensitive receivers are identified on Figure 1. The project site plan is provided as Figure 2.

Due to the proximity of the proposed project to the future residential uses, the project applicant has retained Bollard Acoustical Consultants, Inc. (BAC) to prepare an acoustical analysis for this project. The purposes of this analysis are to quantify noise levels associated with the proposed project, to assess the state of compliance of those noise levels with applicable noise standards, and if necessary, to recommend measures to reduce those noise levels to acceptable limits at the nearest noise sensitive uses.

Background on Noise and Acoustical Terminology

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure), as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness. Figure 3 illustrates common noise levels associated with various sources.

The perceived loudness of sound is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels. Please see Appendix A for definitions of acoustical terminology used in this report.

Figure 1

ARCO AM/PM at Green Valley Road and Sophia Parkway - El Dorado Hills, California
Project Area, Ambient Noise Measurement Location and Noise-Sensitive Receiver Locations

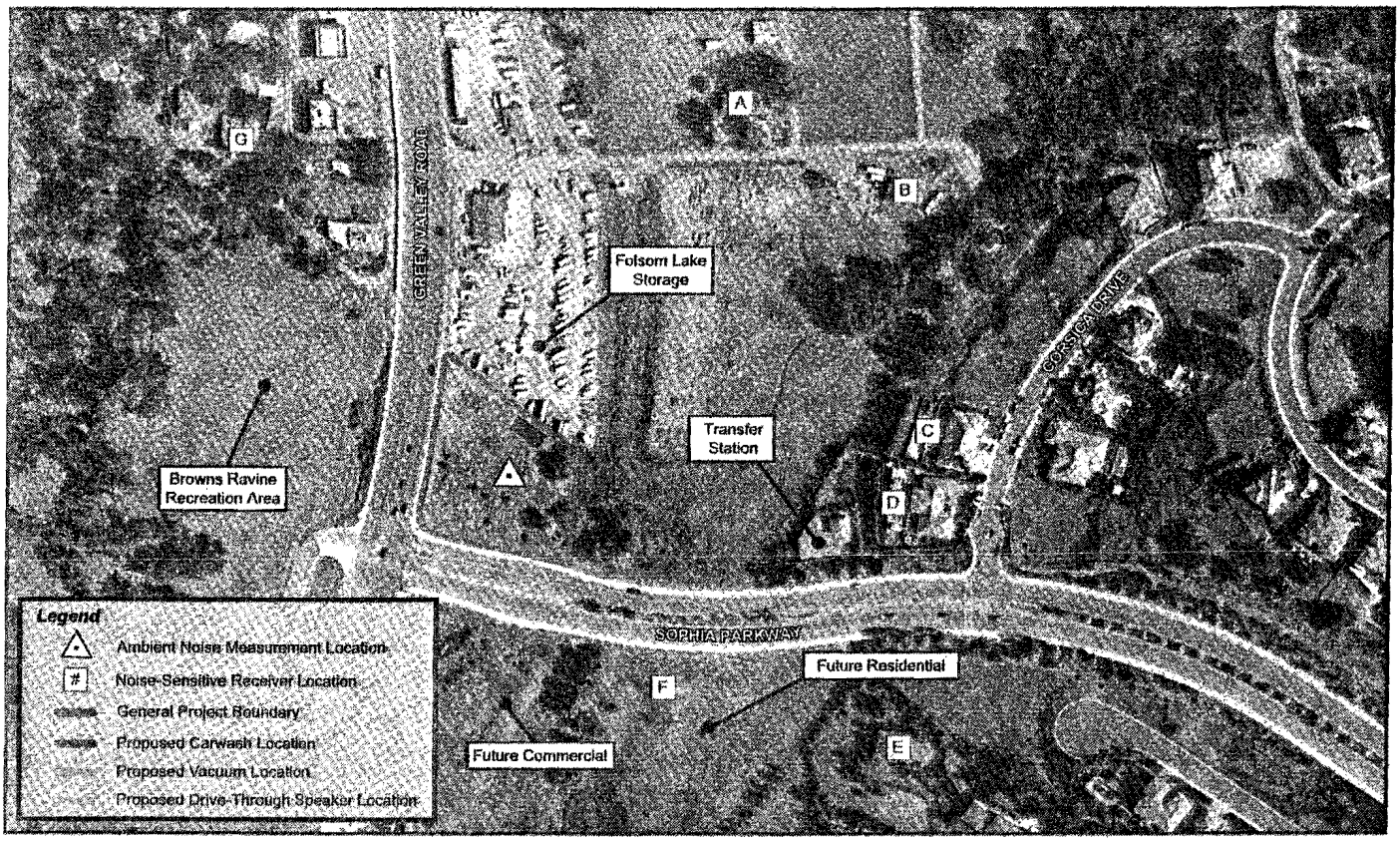
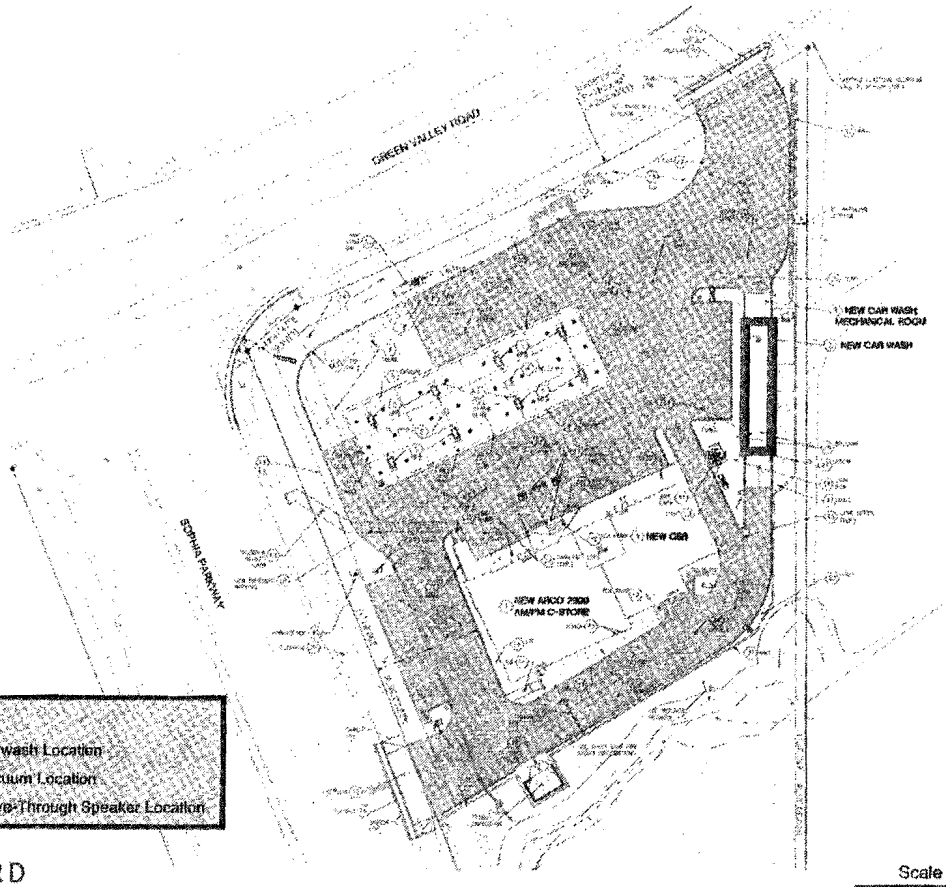


Figure 2

ARCO AM/PM at Green Valley Road and Sophia Parkway - El Dorado Hills, California

Project Site Plan



Legend

- Proposed Carwash Location
- Proposed Vacuum Location
- Proposed Drive-Through Speaker Location

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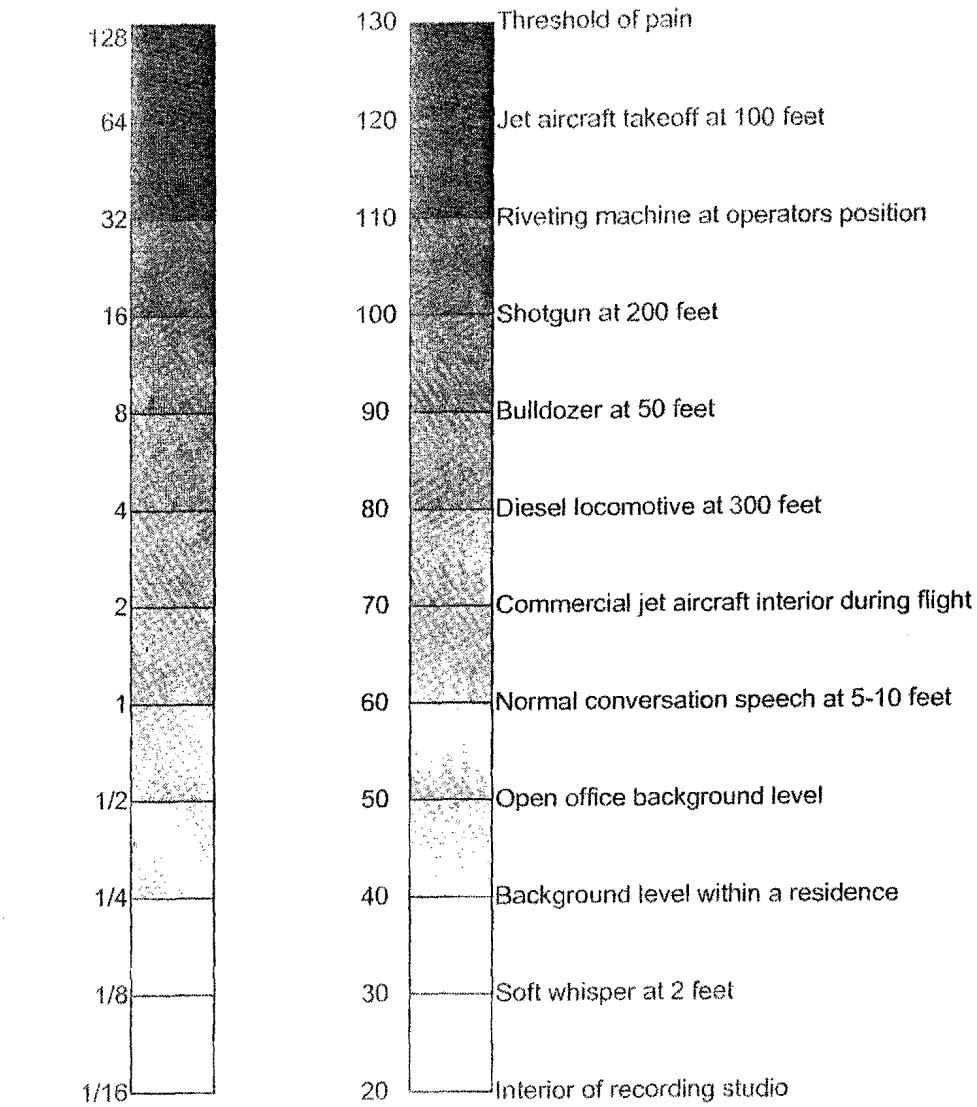
Scale (feet)

0 40 80

Figure 3
Typical A-Weighted Sound Levels of Common Noise Sources



Criteria for Acceptable Noise Exposure

El Dorado County General Plan Noise Element

The El Dorado County General Plan Noise Element establishes noise level criteria for acceptable noise exposure at residential uses due to non-transportation noise sources.

Noise Element Policy 6.5.1.7 states that noise created by new non-transportation noise sources shall be mitigated so as not to exceed any of the noise level standards of Table 1, as measured immediately within the property line of the receiving property.

Policy 6.5.1.2 states that where proposed non-transportation noise sources are likely to produce noise levels exceeding the performance standards of Table 1 at existing or planned residential uses, an acoustical analysis shall be required as part of the environmental review process so that noise mitigation may be included in the project design.

Table 1
Performance Standards for Non-Transportation Noise Sources
El Dorado County Noise Element – Community Areas

Noise Level Descriptor	Daytime (7 a.m. - 7 p.m.)	Evening (7 p.m. - 10 p.m.)	Nighttime (10 p.m. - 7 a.m.)
Hourly L_{eq}, dB	55 dB	50 dB	45 dB
Maximum Level, dB	70 dB	60 dB	55 dB

Note: Each of the noise levels specified above should be lowered by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

Existing Ambient Noise Environment

The noise environment in the project vicinity is defined primarily by traffic noise emanating from Green Valley Road and Sophia Parkway. To generally quantify background noise levels in the project vicinity, BAC staff performed short-term ambient noise level measurements on October 9, 2012 at the location shown in Figure 1. The noise level meter was programmed to record the average noise level (L_{eq}) and the maximum noise level (L_{max}) descriptors. Table 2 shows a summary of the noise measurement results.

Table 2
Summary of Ambient Noise Level Measurements
ARCO AM/PM at Green Valley Road & Sophia Parkway – October 9, 2012

Location	Time of Day	L_{eq}	L_{max}
Project Site (See Figure 1)	10:00 am	54	66

Source: Bollard Acoustical Consultants, Inc.

The background noise level data provided in Table 2 indicate that noise levels measured at the nearest noise-sensitive receiver location are in the general range of daytime and evening noise level performance standards shown in Table 1 for Hourly (L_{eq}) and maximum noise levels (L_{max}), and the project car wash does not propose to operate during nighttime hours. As a result, compliance with the Table 1 noise standards will ensure that the project does not result in a significant noise level increase in the community during daytime and evening hours.

Evaluation of Project-Related Noise Levels

Vacuum Noise

The project applicant did not indicate which manufacturer and model of vacuum system they intend to use. Bollard Acoustical Consultants, Inc. utilized file data in order to predict noise levels at the nearest noise-sensitive receivers. Figure 1 illustrates the proposed location of the vacuums relative to the nearest noise-sensitive receivers. A typical vacuum system seen in previous studies is manufactured by Vac Lover's Inc. / Industrial Vacuum Systems. The quietest unit for which the manufacturer has quantified noise level data is the combination unit with Poly Domes and Amteck Acustek motors, in which the proposed vacuum system is expected to generate a noise level of approximately 68 dB at a distance of 20 feet.

For the purpose of this analysis it was assumed that the vacuums could operate continuously for an entire hour (worst-case). Since the vacuums were assumed to operate continuously for an entire hour, average hourly noise levels (L_{eq}) and maximum noise levels (L_{max}) would be essentially the same. A sound attenuation rate of 6 dB per doubling of distance was used for vacuum noise propagation. The Table 3 data shows the predicted vacuum noise levels at the nearest noise-sensitive receiver locations. Appendix B illustrates the 45, 50, and 55 dB L_{eq} vacuum noise contours.

Table 3
Unmitigated Vacuum Noise Levels
ARCO AM/PM at Green Valley Road and Sophia Parkway

Receiver Location	Distance (feet)	Predicted Level, dB	
		L_{eq}	L_{max}
A	650	38	38
B	760	36	36
C	750	37	37
D	720	37	37
E	830	36	36
F	530	40	40
G	530	40	40

Source: Bollard Acoustical Consultants, Inc. (2013)

As shown in Table 3, vacuum noise levels are predicted to be approximately 36-40 dB L_{eq}/L_{max} at the nearest noise-sensitive receiver locations. These levels would be in compliance with the applicable El Dorado County noise level criteria presented in Table 2. As a result, no mitigation measures are warranted for this aspect project.

Carwash Noise

Based on the experience of Bollard Acoustical Consultants, Inc., noise levels generated by car washes are primarily due to the drying portion of car wash operations. The project applicant has indicated that they intend to install the 30 horsepower drying system manufactured by Premier Touchless Drying System. Figure 1 illustrates the proposed location of the carwash relative to the nearest noise-sensitive receivers.

Noise level data provided by Premier Touchless Drying System indicate that the proposed drying system is expected to generate a noise level of approximately 87 dB Lmax at a distance of 20 feet. This reference noise level is based on a 30 horsepower drying system that includes the Premier Plastic Housing.

Because the drying cycle represents a small portion of the overall wash, the dryers are anticipated to operate for no more than 15 minutes during any given hour. The calculated Hourly L_{eq} given 15 minute usage of the dryer cycle would be 81 dB at a reference distance of 20 feet. The Table 4 data shows the predicted car wash noise levels at the nearest noise-sensitive receiver locations.

Table 4
Unmitigated Carwash Noise Levels
ARCO AM/PM at Green Valley Road and Sophia Parkway

Receiver Location	Distance (feet)	Predicted Level, dB	
		L_{eq}	L_{max}
A	650	51	57
B	760	50	56
C	750	51	57
D	720	51	57
E	830	50	56
F	530	54	60
G	530	51	57

Source: Bollard Acoustical Consultants, Inc. (2013)

As shown in Table 4, carwash noise levels are predicted to be approximately 50-54 dB L_{eq} and 56-60 dB L_{max} at the nearest noise-sensitive receiver locations. These levels would be in compliance with the applicable daytime noise level standards (55 dB L_{eq}, 70 dB L_{max}) as well as the evening maximum noise level standard (60 dB L_{max}). However, the predicted carwash noise levels would exceed the evening hourly average standard (50 dB L_{eq}) and nighttime noise level standards (45 dB L_{eq}, 55 dB L_{max}). As a result, consideration of additional noise mitigation measures would be warranted for this aspect project.

Drive-Through Noise

To quantify the noise emissions of proposed drive-through vehicle passages and speaker usage, Bollard Acoustical Consultants, Inc. utilized noise level data previously collected for similar drive-through operations. The collected data indicate that the drive through speaker and idling vehicles are expected to generate noise levels of 60 and 55 dB L_{max} at a distance of 50 feet, respectively. Figure 1 illustrates the proposed location of the drive-through relative to the nearest noise-sensitive receivers.

Average hourly noise levels for idling vehicles are essentially the same as maximum levels under the assumption that cars could be present in the drive-through for the entire duration of an hour because the sound is steady-state. Average hourly noise levels for drive-through speaker usage depends on the duration of the hour that the speaker is actually in use. Based on the very conservative assumption that the speakers would be in use for 10% of a busy hour, average levels would be 10 dB lower than maximum noise levels. The predicted drive-through noise levels at the nearest noise-sensitive receiver locations are shown in Table 5. Appendix C illustrates the 45, 50, and 55 dB L_{eq} drive-through speaker noise contours.

Table 5
Unmitigated Drive-Through Noise Levels
ARCO AM/PM at Green Valley Road and Sophia Parkway

Receiver Location	Distance (feet)	Predicted Vehicle Noise Level, dB		Predicted Speaker Noise Level, dB	
		L_{eq}	L_{max}	L_{eq}	L_{max}
A	660	33	33	28	38
B	700	32	32	27	37
C	600	33	33	28	38
D	550	34	34	29	39
E	650	33	33	28	38
F	350	38	38	33	43
G	730	32	32	27	37

Source: Bollard Acoustical Consultants, Inc. (2013)

As shown in Table 5, vehicle idling noise levels are predicted to be approximately 32-38 dB L_{eq}/L_{max} at the nearest noise-sensitive receiver locations. These levels would be in compliance with the applicable daytime noise level standards (55 dB L_{eq}, 70 dB L_{max}), as well as the evening noise level standards (50 dB L_{eq}, 60 dB L_{max}).

As shown in Table 5, speaker noise levels are predicted to be approximately 27-33 dB L_{eq} and 37-43 dB L_{max}. As required by El Dorado County, the noise level standards presented in Table 2 are reduced by 5 dB due to the speech component of the noise source. Nonetheless, the predicted speaker noise levels presented in Table 5 would be in compliance with the adjusted El Dorado County noise level standards. As a result, no additional noise mitigation measures would be warranted for this aspect of the project.

Noise Mitigation Measures

Carwash Noise

Based on the data in Table 4, proposed carwash noise levels would exceed the County's evening 50 dB L_{eq} noise level criterion at the nearest residences by approximately 1-4 dB. It is recommended, therefore, that further noise reduction be required of the carwash dryer.

The dryer model mentioned previously (Premier Touchless Drying System) provides optional entrance and exit doors to provide further acoustical attenuation. The reference noise level at the exit of the Premier model, with doors closed during the drying portion of the carwash, is 72 dB L_{max} at 20 feet.

Because the drying cycle represents a small portion of the overall wash, the dryers are anticipated to operate for no more than 15 minutes during any given hour. The calculated Hourly L_{eq} given 15 minute usage of the dryer cycle would be 66 dB at a reference distance of 20 feet. The mitigated carwash noise levels at the nearest noise-sensitive receiver locations are shown in Table 6. Appendix D illustrates the 45, 50, and 55 dB L_{eq} mitigated carwash noise contours.

Table 6
Mitigated Carwash Noise Levels
ARCO AM/PM at Green Valley Road and Sophia Parkway

Receiver Location	Distance (feet)	Predicted Level, dB	
		L_{eq}	L_{max}
A	650	36	42
B	760	35	41
C	750	36	42
D	720	36	42
E	830	35	41
F	530	39	45
G	530	36	42

Source: Bollard Acoustical Consultants, Inc. (2013)

The predicted levels presented in Table 6 would be in compliance with El Dorado County daytime, evening, and nighttime noise level standards presented in Table 2. As a result, no further noise mitigation measures would be warranted for this project.

Conclusions and Recommendations

Noise levels associated with daily operation of the proposed ARCO AM/PM car wash at Green Valley Road and Sophia Parkway in El Dorado Hills, California are expected to satisfy the applicable El Dorado County General Plan Noise Element noise level criteria provided the following noise mitigation measures are incorporated in the project design:

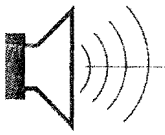
1. Ensure the inclusion of carwash entrance and exit doors that result in a reference noise level of 72 dB L_{max} at 20 feet.

The above mentioned mitigation measures would result in compliance with the El Dorado County noise level criteria. These conclusions are based on the site plan shown in Figure 2 and on the manufacturers noise level data cited herein. Deviations from these plans or data could cause noise levels to differ from those predicted in this assessment.

Appendix A

Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz.
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Masking	The amount (or the process) by which the threshold of audibility is for one sound is raised by the presence of another (masking) sound.
Noise	Unwanted sound.
Peak Noise	The level corresponding to the highest (not RMS) sound pressure measured over a given period of time. This term is often confused with the Maximum level, which is the highest RMS level.
RT_{60}	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 sabin.
SEL	A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy of the event into a 1-s time period.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.



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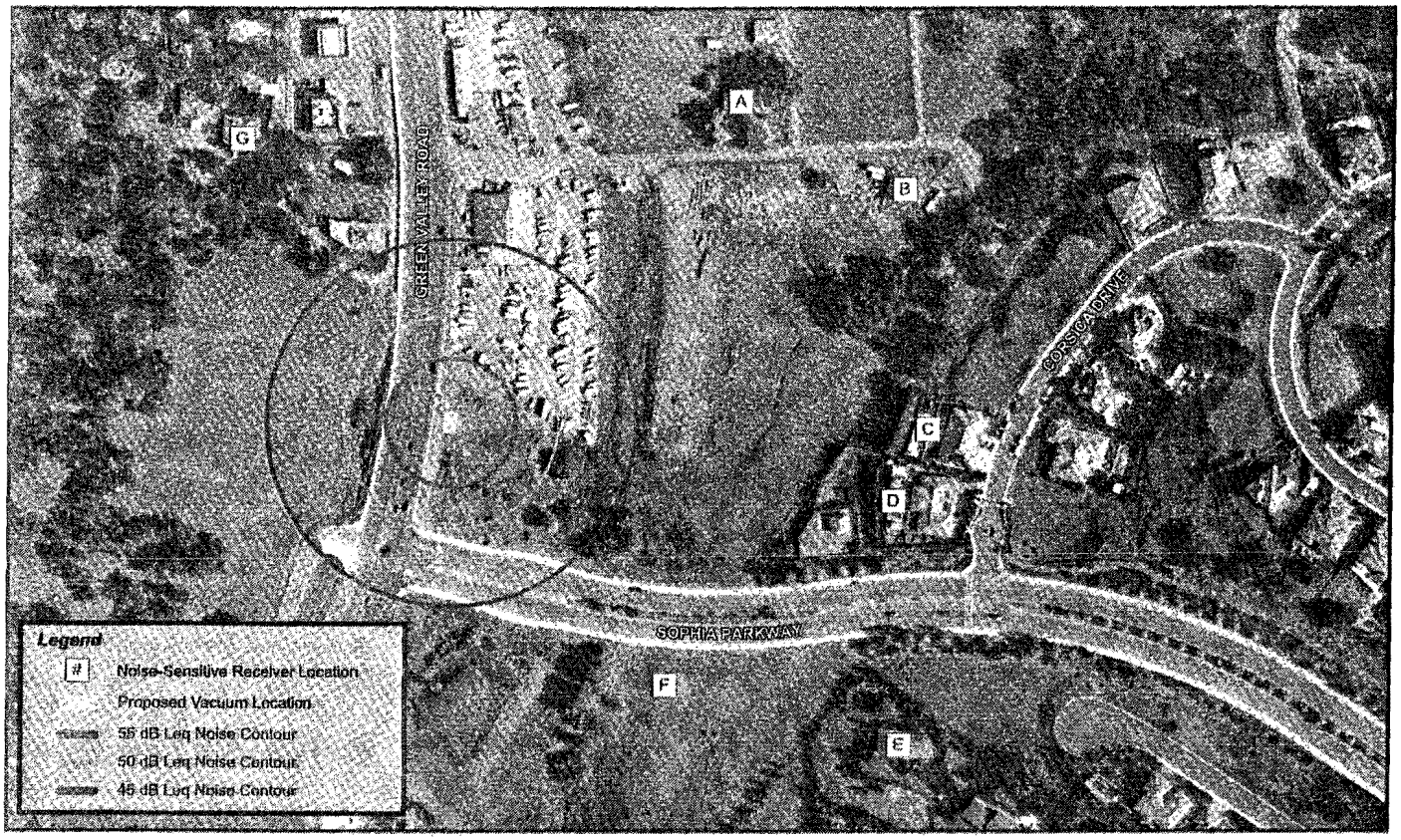
Appendix B

ARCO AM/PM at Green Valley Road and Sophia Parkway - El Dorado Hills, California
Vacuum Noise Contours (Unmitigated)



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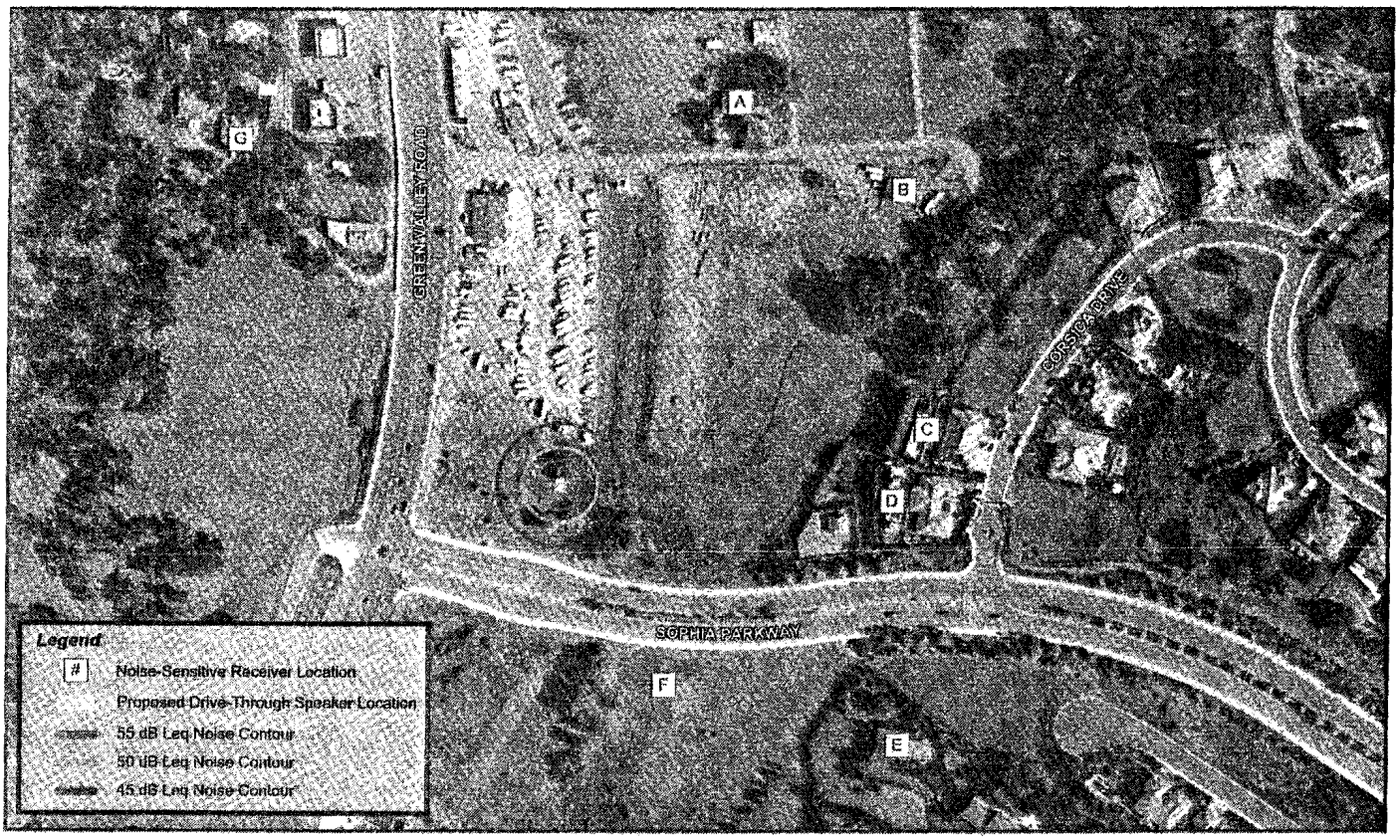
Note: Vacuum noise contours based on reference noise level of 68 dB Leq/Lmax at 20 feet.

Scale (feet)
0 150 300

Appendix C

ARCO AM/PM at Green Valley Road and Sophia Parkway - El Dorado Hills, California
Drive-Through Speaker Noise Contours (Unmitigated)



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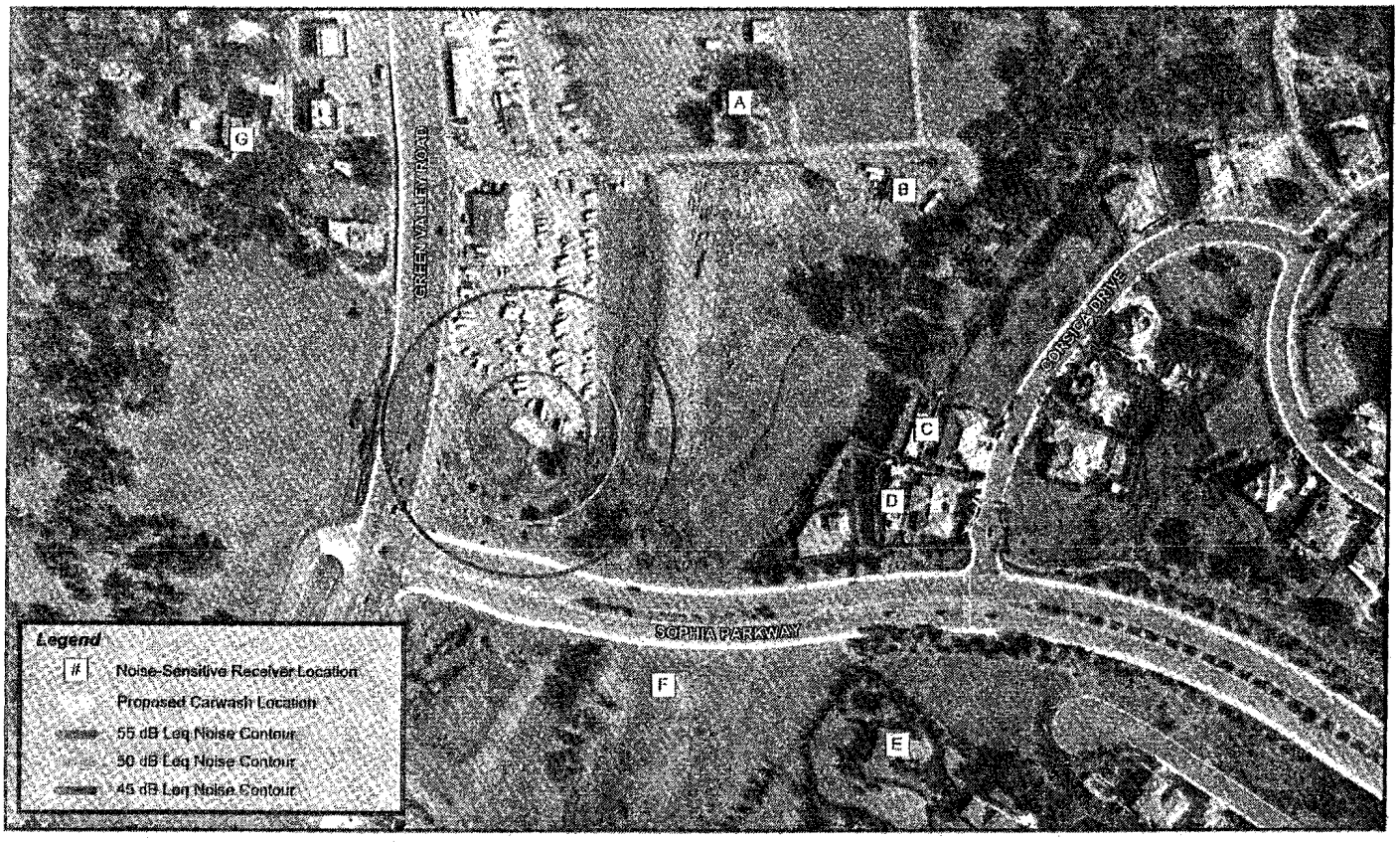
Note: Speaker noise contours based on reference noise level of 50 dB Leq at 50 feet.

Scale (feet)
0 150 300

Appendix D

ARCO AM/PM at Green Valley Road and Sophia Parkway - El Dorado Hills, California
Carwash Noise Contours (Mitigated)



BOLLARD Acoustical Consultants

Note: Carwash noise contours based on reference noise level of 66 dB Leq at 20 feet.

Scale (feet)
0 150 300

TRAFFIC IMPACT ANALYSIS

FOR

ARCO AM/PM GAS STATION & CONVENIENCE MARKET SITE

Green Valley Road at Sophia Parkway
El Dorado Hills, El Dorado County CA

Prepared For:

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May 23, 2013

1260-001

Green Valley Rd ARCO AM PM.rpt

KD Anderson & Associates, Inc.
Transportation Engineers

ATTACHMENT 15

TRAFFIC IMPACT ANALYSIS FOR
ARCO AM/PM GAS STATION & CONVENIENCE MARKET SITE
Green Valley Road at Sophia Parkway

TABLE OF CONTENTS

KDA

ARCO AM/PM GAS STATION & CONVENIENCE MARKET SITE
TRAFFIC IMPACT ANALYSIS

EXECUTIVE SUMMARY

- **Project Description.** The Arco AM/ PM project includes a gasoline station with 16 fueling positions, a 2,824± square foot convenience store, a 1,998± square foot quick serve restaurant (QSR) and a car wash. The project is located in the southeast quadrant of the Green Valley Road / Sophia Parkway intersection in El Dorado Hills. The project is expected to generate approximately 3,437 daily trips on a weekday basis. The project will generate 290 trips during the a.m. peak hour and 291 trips during the p.m. peak hour. After discounting pass-by and internally captured trips the new trips generated by this project will be 113 a.m. peak hour trips and 125 p.m. peak hour trips.

- **Existing Setting.** The location of the project is in western El Dorado County, in the southeast quadrant of the Green Valley Road / Sophia Parkway intersection. The project includes two right-in, right-out access driveways, one along Green Valley Road and one long Sophia Parkway. Traffic volumes were counted in November 2012 at four intersections. As directed by the County's consultant, Kittelson Associates, three intersections used data from recent traffic studies. These included Green Valley Road at Francisco Drive, Green Valley Road at El Dorado Hills Blvd and El Dorado Hills Blvd at Francisco Drive. Traffic volumes from these studies completed before 2012 were adjusted to reflect 2012 conditions.

  All study intersections except one operate above the County's level of service threshold. The El Dorado Hills Blvd / Francisco Drive intersection currently operates at LOS F in both peak hours. This intersection does meet the peak hour signal warrant. Installation of a traffic signal would reduce the worst overall delays at the intersection to 39.4 seconds per vehicle in the a.m. peak hour and improve the operations at the intersection to LOS D. The northbound left turn lane is 80' and the queues in the left turn lane will spill into the through lane. The projected worst queue will be 550'. The northbound left turn lane should be extended to reduce spillback into the through lane. The County has identified this intersection for improvement in their Capital Improvement Program, CIP #72332. It is currently identified as a project to be completed in the next 20 years, after 2021.

  No other recommendations are needed.

- **Existing Plus Project Specific Impacts.** The addition of the proposed project will contribute to the traffic volumes along Green Valley Road and Sophia Parkway. The following mitigations should be completed:

- All intersections except the El Dorado Hills Blvd / Francisco Drive intersection will continue to operate at acceptable levels of service. With the recommendation completed in the Existing Setting, the intersection will continue to operate at LOS D (42.6 sec) or better. The queue in the northbound left turn lane will increase to 560'. The project shall pay their TIM fees for this intersection.

- The project shall install a median along Green Valley Road at the project frontage that will extend beyond the project driveway. The median shall extend past the project driveway to prevent turning movements across Green Valley Road. The length shall be 350'. To provide the required left turn storage for traffic turning onto Sophia Parkway the left turn lane can be striped as a dedicated left turn lane or, can be a combination of a dedicated left turn lane and the existing continuous left turn lane existing east of the project site.

- The existing 85' eastbound left turn lane at the Green Valley Road / El Dorado Hills Blvd is inadequate to service left turns and is an existing deficiency. The project will exacerbate the queues, specifically the p.m. queue by 16' in the p.m. peak hour to 217'. The project shall pay their TIM fees for this intersection.

- The project applicant shall identify approach and departure routes for delivery vehicles as single unit trucks and larger cannot make a U-turn along westbound Green Valley Road or along northbound Sophia Parkway. All delivery vehicles shall approach the site from either Green Valley Road west of Sophia Parkway or north along Sophia Parkway. Outbound delivery vehicles can proceed either east or west on Green Valley Road.

- The project applicant shall modify the southeast quadrant of the Green Valley Road / Sophia Parkway intersection to allow westbound U-turn movements. Improvements shall include modifications necessary to maintain the existing traffic signal system.

- The project shall contribute its fair share to the cost of regional circulation improvements, including CIP #72332, via the existing countywide traffic impact mitigation (TIM) fee program.

No other mitigations are needed.

- **2017 Setting.** Growth is expected to occur along Green Valley Road and Sophia Parkway in the next five years. Peak hour turning movement counts for 2017 were calculated using the County's two methodologies. The first methodology includes adding Approved / Pending Projects (APP) to existing volumes while the second methodology is a straight line interpolation based on the County's 1998 base model volumes and the 2025 projected model volumes. Three projects in the vicinity were identified by County staff, Wilson Estates, Green Valley Center and Dixon Ranch. The APP volume projections governed at all intersection except the Green Valley Road / El Dorado Hills

Blvd intersection where the model interpolation volumes governed in the A.M. peak hour.

2017 lane configurations along Green Valley Road are consistent with the existing four-lane roadway from just west of Sophia Parkway to El Dorado Hills Blvd. Based on direction from the County an eastbound right turn lane along Francisco Drive is assumed at the intersection of El Dorado Hills Blvd.

All intersections will operate at acceptable levels of service with the installation of a traffic signal at the El Dorado Hills / Francisco Drive intersection, as identified in the Existing Setting.

No recommendations are needed.

- **2017 plus Project Specific Impacts.** All intersections will operate at acceptable levels of service with the installation of a traffic signal at the El Dorado Hills / Francisco Drive intersection, as identified in the Existing Setting.

  No other mitigations are needed.

ARCO AM/PM GAS STATION & CONVENIENCE MARKET SITE
TRAFFIC IMPACT ANALYSIS

INTRODUCTION

Study Purpose and Objectives

This study evaluates the traffic impacts for a gas station, convenience store and car wash project located on the southeast quadrant of the Green Valley Road / Sophia Parkway intersection in El Dorado Hills in western El Dorado County. The project includes a gasoline station with 16 fueling positions, a 2,824± square foot convenience store, a 1,998± square foot quick serve restaurant (QSR) and a car wash. Based on direction from the County this study addresses the following scenarios:

1. Existing (2012) Traffic Conditions
2. Existing (2012) Plus Project Conditions
3. 2017 Traffic Conditions
4. 2017 Plus Project Conditions

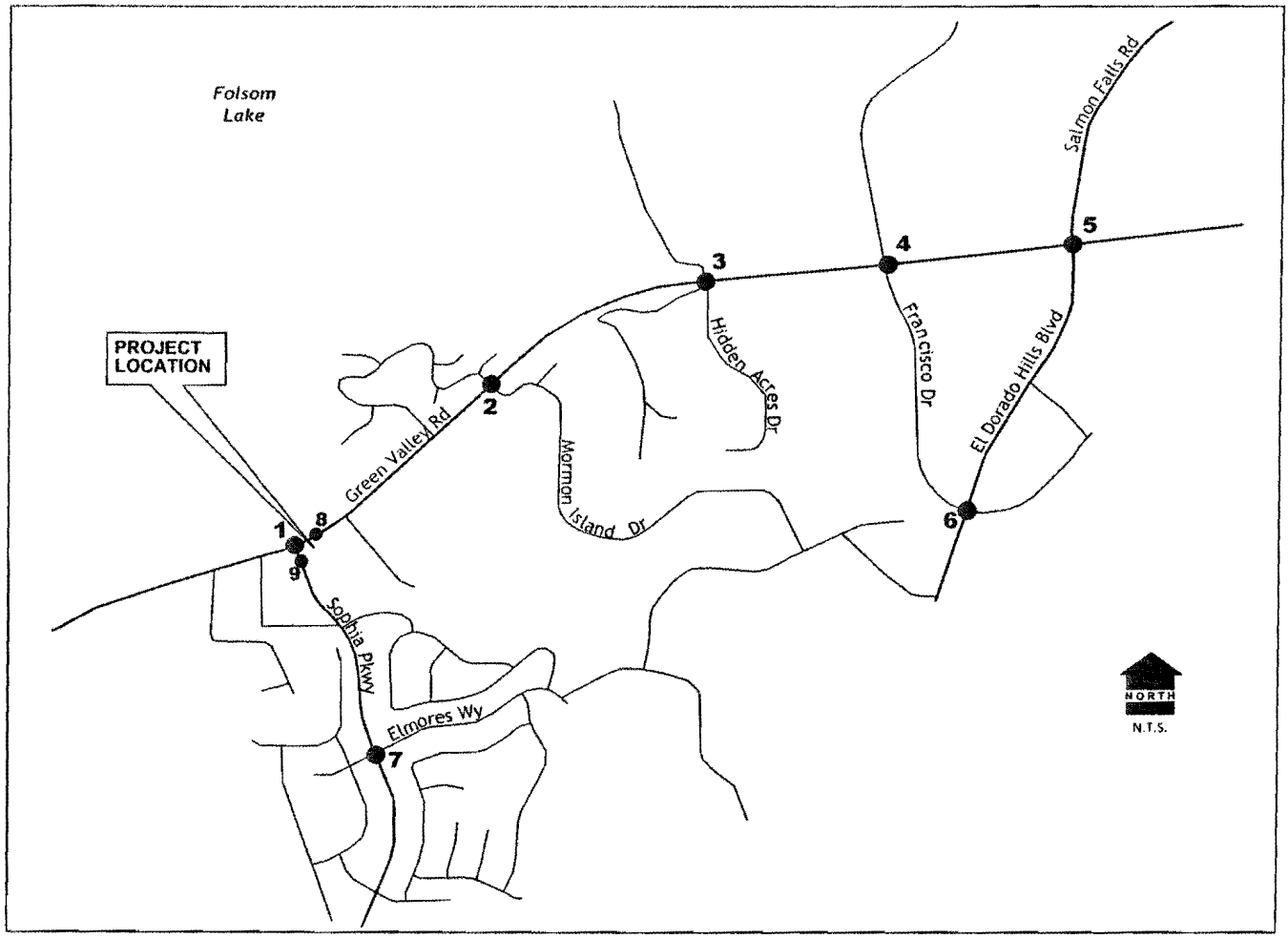
The objective of this study is to identify those roads and street intersections that may be impacted by development of this project.

Project Description

The Arco AM/ PM project includes a gasoline station with 16 fueling positions, a 2,824 square foot convenience store, a 1,998 square foot quick serve restaurant (QSR) and a car wash. The project is located in the southeast quadrant of the Green Valley Road / Sophia Parkway intersection in El Dorado Hills.

Access to and from the site will be along both Green Valley Road and Sophia Parkway. The site will have access driveways along Sophia Parkway and along Green Valley Road. Both will be right-in, right-out only. The El Dorado County Department of Transportation (DOT) has indicated they may consider allowing U-turns along Green Valley Road and Sophia Parkway; however, the project would need to construct a raised median along Green Valley Road along the project frontage as a condition. An AutoTurn analysis is required to determine the feasibility of U-turns.

Figure 1 presents a map of the vicinity with the project location relative to the project area. Figure 2 presents the proposed project configuration.



VICINITY MAP AND
STUDY INTERSECTIONS

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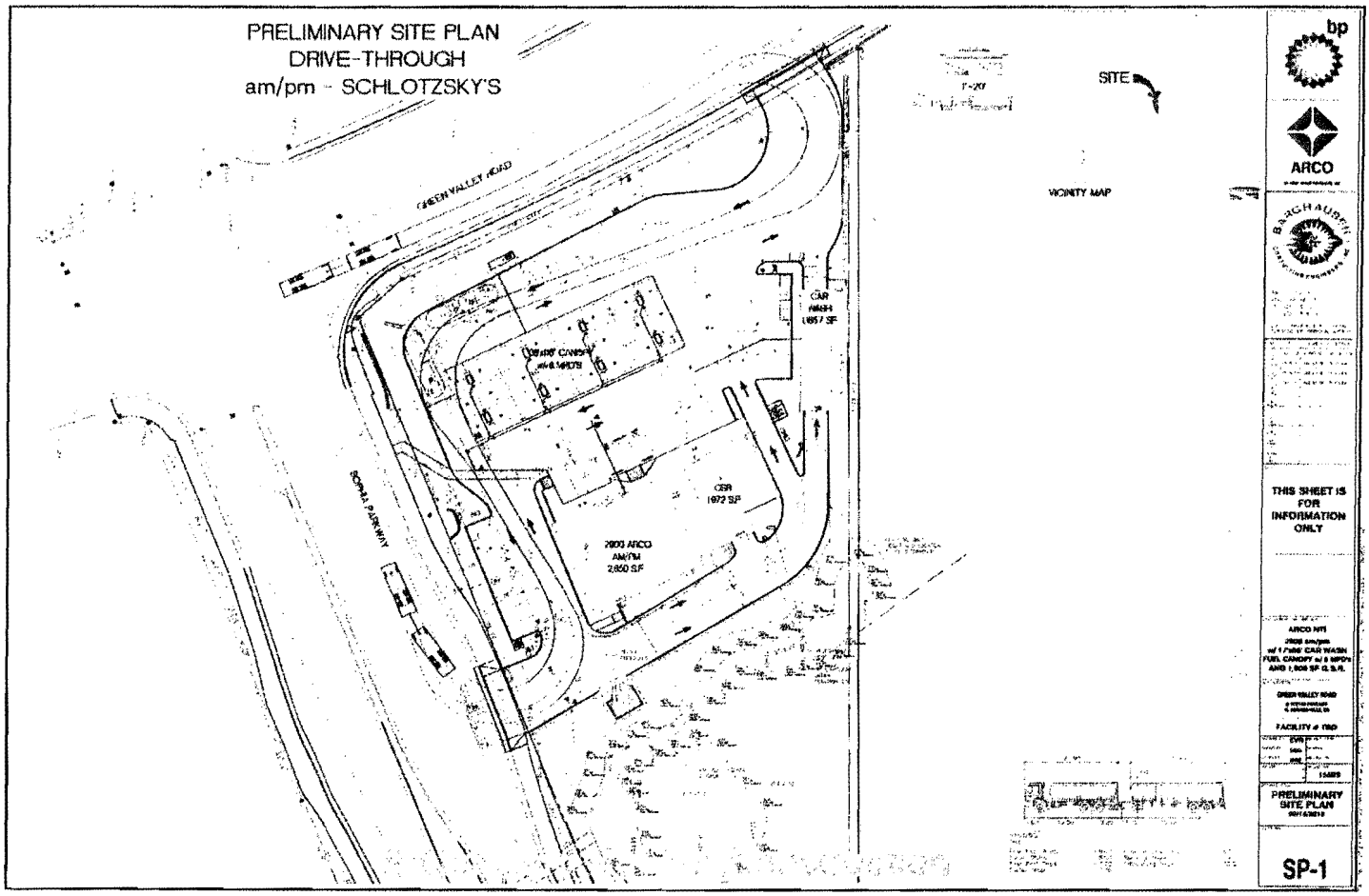
figure 1



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SITE PLAN

figure 2

EXISTING SETTING

Study Area

This study addresses traffic conditions at seven intersections in the area. The limits of the study area were identified through review of the project site with El Dorado County (Kittelson & Associates [KAI]) and expected travel patterns for the project. The text that follows describes the facilities included in this analysis. The quality of traffic flow is typically governed by the operation of major intersections and the daily volume of traffic along the roadways. The study locations include:

Study Area Intersections

The **Green Valley Road / Sophia Parkway intersection** provides access between El Dorado Hills and the City of Folsom in Sacramento County. This intersection is the last major intersection prior to entering Sacramento County. The intersection is signalized and provides protected left turns, through and through-right lanes along Green Valley Road. The Sophia Parkway approach includes a left lane, a left-through lane and a right only lane; the opposing approach provides access to the Folsom Lake State Recreation Area (SRA). These approaches include a split phase signal.

The **Green Valley Road / Mormon Island Drive** is located east of the Sophia Parkway intersection. The intersection is signalized and provides protected left turn lanes along both Green Valley Road approaches. The Mormon Island Drive approaches consist of a single left-through-right lane in both directions and they operate in a permissive mode.

The **Green Valley Road / Hidden Acres Drive intersection** is located about midway between Sophia Parkway and El Dorado Hills Blvd. The intersection provides access to a Folsom Lake SRA boat launch area to the north and large acreage residential properties to the south. The intersection is signalized with protected left turn lanes and through and through-right lanes along Green Valley Road. A single lane exists along southbound Hidden Acres Drive while a left-through lane and a right lane exist along northbound Hidden Acres Drive. Hidden Acres Drive operates in a permissive condition.

The **Green Valley Road / Francisco Drive intersection** provides access to the north side of El Dorado Hills. The intersection is signalized and provides dual left turn lanes in the eastbound direction along Green Valley Road; the opposing westbound left is a single left turn lane. Both approaches include dual through lanes and a right turn lane. Northbound Francisco Drive includes dual left turn lanes, a through lane and a through–right lane while the southbound approach includes left, through and right lanes. The intersection operates with protected left turns on all approaches.

The **Green Valley Road / El Dorado Hills Blvd-Salmon Falls Road intersection** provides access to US 50 to the south and access across the American River to the north. The intersection is a four-way signalized intersection. The Green Valley Road approach includes left turn lanes

and through-right lanes. The El Dorado Hills Blvd approach includes a left turn lane and a through-right lane while the Salmon Falls Road intersection includes a left-through lane and a right turn lane; the El Dorado Hills Blvd – Salmon Falls Road approaches are split phased while the Green Valley Drive approaches are protected.

The **Francisco Drive / El Dorado Hills Blvd intersection** provides access from US 50 to the south to two main intersections along Green Valley Road. The intersection is a four way intersection and is currently all way stop controlled. The Francisco Drive approaches include a single left-through-right lane while the El Dorado Hills Blvd approaches include left turn lanes and through-right lanes.

The **Sophia Parkway / Elmores Way intersection** provides access between Green Valley Road and East Natoma Street in Folsom. The intersection is all-way stop controlled. Sophia Parkway consists of left turn lanes and through-right lanes in both north and southbound directions. Elmores Way includes a left-through-right lane along the eastbound approach and left-through and right only lanes along the westbound approach.

Level of Service Analysis

Methodology. *Level of Service Analysis* has been employed to provide a basis for describing existing traffic conditions and for evaluating the significance of project traffic impacts. Level of Service measures the *quality* of traffic flow and is represented by letter designations from "A" to "F", with a grade of "A" referring to the best conditions, and "F" representing the worst conditions. The guidelines and analyses used for this report follow El Dorado County standards.

Local agencies adopt minimum Level of Service standards for their facilities. El Dorado County identifies LOS 'E' as the acceptable Level of Service on roadways and state highways within the unincorporated areas of the County in the Community Regions and LOS D in the Rural Centers and Rural Regions except as specified in the General Plan. Four roadway segments, none of which are part of this study, allow LOS F conditions after 2008. The *2000 Highway Capacity Manual* was used to provide a basis for describing existing traffic conditions and for evaluating the significance of project traffic impacts. Intersection levels of service presented in this analysis are based on the weighted average total delay per vehicle for the intersection as a whole based on the thresholds shown in Table 1.

Intersection Thresholds. An impact is considered significant if the project causes an intersection to change from LOS E to LOS F. Worsening of existing facilities already operating at unacceptable levels of service is also considered a significant impact. The County's General Plan Policy TC-Xe defines worsen as any of the following conditions:

a. a 2% increase in traffic during the a.m. peak hour, p.m. peak hour or daily trips, or
b. the addition of 100 or more daily trips, or
c. the addition of 10 or more trips during the a.m. peak hour or the p.m. peak hour.

TABLE 1
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.
Sources: 2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.			

Public Transit

El Dorado Transit (EDT) operates buses throughout El Dorado County. In the vicinity of the site, there is no scheduled bus service.

Bicycle and Pedestrian Facilities

Few designated bicycle routes currently exist throughout El Dorado County due to the rural nature of the county; however, in the urban areas bike and pedestrian facilities are being developed. In the project vicinity Class II bike lanes are present along Green Valley Road from the County line to Francisco Drive. Bike lanes are also present along the entire length of Sophia Parkway from Green Valley Road to the County line.

Bicycle counts were conducted for the Green Valley Road / Sophia Parkway intersection to determine current peak hour bicycle usage. During the a.m. peak hour 6 bicyclists were observed, two each from the east, west and south. During the p.m. peak hour the volume increased to 19 bicyclists, seven from the west, five from the east, three from the south and four from the north.

Sidewalk is present along the south side of Green Valley Road along the project frontage, but is discontinuous to Francisco Drive beginning about midway between Sophia Parkway and Mormon Island Drive. Along the north side of the roadway sidewalk is present between Sophia Parkway and Mormon Island Drive. Sidewalk is present along both sides of Sophia Parkway from Green Valley Road to south of Alexandra Drive.

Existing Conditions

Intersection Levels of Service. The Level of Service for intersections is measured in terms of average delay (seconds per vehicle). Figure 3 presents the existing lane configurations and current traffic volumes at intersections and selected roadway segments in the study area. Traffic volumes were counted in November 2012 at four intersections. As directed by KAI, three intersections, Green Valley Road at Francisco Drive, Green Valley Road at El Dorado Hills Blvd and El Dorado Hills Blvd at Francisco Drive used data from recent traffic studies.

The El Dorado Hills Blvd / Francisco Drive intersection used traffic count data from the *Wilson Estates Traffic Study,* Kimley Horn, March 2011 to develop 2012 adjusted turning movement volumes while the Green Valley Road / Francisco Drive and Green Valley Road / El Dorado Hills Blvd – Salmon Falls Rd intersections used data counted in October and November from the *Dixon Ranch Traffic Study*, Kimley Horn, May 2012 to adjust to 2012 volumes.

Annual volume adjustments were made based on either a 2% annual increase or an increase based on a straight line interpolation computation from the 1998 and 2025 County model plots. Appendix B provides the percentages used for each approach and each intersection. The higher summed volumes for each intersection were used for both a.m. and p.m. peak hours. A list of the counts and dates counted can also be found in the Appendix.

For this analysis, Level of Service E is the minimum acceptable condition.

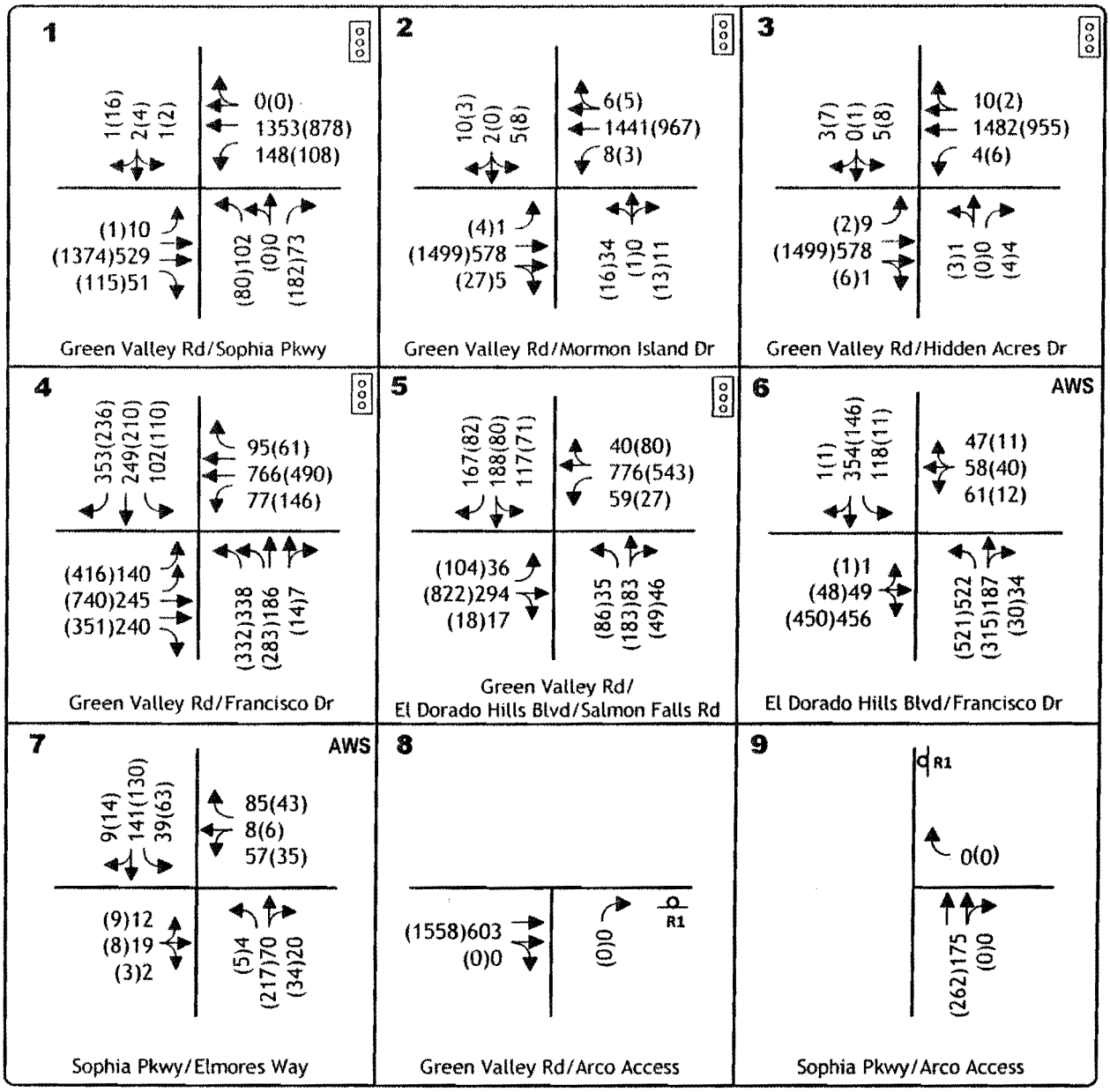
Table 2 summarizes current Levels of Service at the seven study area intersections during the a.m. and p.m. peak hours. Six of the intersections operate at an acceptable level of service, operating at LOS E or better. The El Dorado Hills Blvd / Francisco Drive intersection is an all-way stop controlled intersection which operates at LOS F conditions in both a.m. and p.m. peak hours. This intersection meets the peak hour signal warrant in both peak periods.

TABLE 2
EXISTING PEAK HOUR LEVELS OF SERVICE AT INTERSECTIONS

Location	Control	AM Peak Hour Intersection		PM Peak Hour Intersection		Traffic Signal Warranted?
		LOS	Average Delay	LOS	Average Delay	
1. Green Valley Rd / Sophia Parkway	Signal	B	15.6	B	15.8	N/A
2. Green Valley Rd / Mormon Island Dr	Signal	A	6.4	A	5.1	N/A
3. Green Valley Rd / Hidden Acres Dr	Signal	A	3.0	A	4.5	N/A
4. Green Valley Rd / Francisco Dr	Signal	C	34.3	D	48.1	N/A
5. Green Valley Rd / El Dorado Hills Blvd – Salmon Falls Rd	Signal	E	74.1	E	65.1	N/A
6. El Dorado Hills Blvd / Francisco Dr	AWS					
Overall		F	107.6	F	59.7	Yes
NB		F	163.7	F	83.8	
SB		E	45.3	B	13.5	
EB		F	112.2	F	38.5	
WB		C	19.8	B	11.9	
7. Sophia Parkway / Elmores Way	AWS					
Overall		A	8.0	A	8.9	No
NB		A	7.7	A	9.7	
SB		A	8.3	A	8.2	
EB		A	8.9	A	9.1	
WB		A	7.6	A	7.8	

AWS – all way stop,

KDA



EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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Transportation Engineers

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figure 3

EXISTING PLUS PROJECT IMPACTS

Trip Generation

The development of this project will attract additional traffic to the project site. The amount of additional traffic on a particular section of the street network is dependent upon two factors:

- Trip Generation, the number of new trips generated by the project, and
- Trip Distribution and Assignment, the specific routes that the new traffic takes.

Trip generation is determined by identifying the type and size of land use being developed. Recognized sources of trip generation data may then be used to calculate the total number of trip ends.

The site includes a 16-fueling position gas station with convenience store, a QSR with drive-through window and a single lane car wash. The convenience store includes about 2,824 square feet while the QSR is about 1,998 square feet.

The trip generation of the project was computed using trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 8th Edition, 2008) based on the projected uses. For this project the site is co-branded with the three primary uses; however, *Trip Generation* does not have data available for this co-branded land use. In consultation with the County's consultant, Kittelson & Associates, Inc., the trip generation considered Land Use 934, a fast food restaurant with drive-through and Land Use 946, a gas station with convenience store and car wash. Table 3 displays the daily, a.m. peak hour, and p.m. peak hour trip generation for the site.

Trips generated by commercial projects fit into two categories. Some trips will be made by patrons who would not otherwise be on the local street system and who go out of their way to reach the site. These are "new" trips. Other trips will be made by patrons who are already in the roadway network, and are therefore not adding "new" trips to the overall system. In addition, at sites where multiple uses are present such as this site a single trip may result in a trip to multiple land uses. For example, one vehicle trip from the street may visit the gas station and one, or all of the other uses. These trips are referred to as internally captured trips.

"Pass-by" trips would be made by motorists who are already driving by the site as part of another trip. Peak hour pass-by trips are common on commuter routes as motorists stop on their way home. They are made by patrons who are already driving by the site and simply interrupt a trip already being made to other destinations. An example of this type of trip would be stopping to refuel a vehicle. **"Internally captured"** trips are made by patrons visiting multiple land uses on the site. For example, for this project a motorist may visit both the gas station and the QSR in one visit.

ITE research has suggested typical "pass-by" percentages for various land uses where appreciable background traffic occurs. The share of project trips falling into each category varies over the day. Table 3 presents the "pass-by" and internally captured reductions used for

this study. Application of these rates yields a total of 1,758 daily 'pass-by' trips, 157 'pass-by a.m. peak hour trips and 152 'pass-by' p.m. peak hour trips. Internal trip reductions would result in 198 daily internal trips, 20 internal a.m. trips and 14 internal p.m. trips. After accounting for this traffic, the project is expected to generate 1,480 'new' daily trips, 113 'new' a.m. peak hour trips and 125 'new' p.m. peak hour trips.

TABLE 3
PROJECT TRIP GENERATION

Land Use	Amount	Trip Rate					Trips				
		Daily	AM Peak Hour		PM Peak Hour		Daily	AM Peak Hour		PM Peak Hour	
Fast Food with Drive Through (LU 934)[1]	1.998 ksf						991	99		68	
Gas Station with Convenience Store (LU 946)	16 FS	152.84	11.93		13.94		2,445	191		223	
			AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour	
			In	Out	In	Out		In	Out	In	Out
Fast Food (LU 934)			0.51	0.49	0.52	0.48		50	48	35	32
Gas Station (LU 946)			0.50	0.50	0.50	0.50		97	94	114	109
Sub Total - Trips							**3,437**	**148**	**142**	**149**	**142**
Internal Trips – Fast Food (20%)							(198)	(10)	(10)	(7)	(6)
Pass-By Trip Reduction – Fast Food[2]							(389)	(20)	(19)	(14)	(13)
Pass-By Trip Reduction – Gas Station[3]							(1,369)	(60)	(58)	(64)	(61)
Net New Trips[4]							**1,480**	**58**	**55**	**64**	**61**

FS – fueling station
[1] Fast Food restaurant referred to as Quick Serve Restaurant (QSR) in report
[2] Pass-by rates – 49% Daily, 49% AM, 50% PM
[3] Pass-by rates – 56% Daily, 62% AM, 56% PM
[4] Numbers may not match due to rounding

Trip Distribution & Assignment

The distribution of project traffic was developed by El Dorado County and based on existing traffic counts, the travel patterns in the area and the proximity to residential housing, employment centers, schools and other shopping areas that may be currently used by shoppers. New project trips are expected to be oriented to the west, south and east. Table 4 presents the projected trip distribution percentages for the project. The traffic distribution is shown in Figure 4 while the generated traffic volumes are shown in Figures 5A and 5B. Figure 5A presents the new trips generated by the project while Figure 5B presents the pass-by trips of the project.

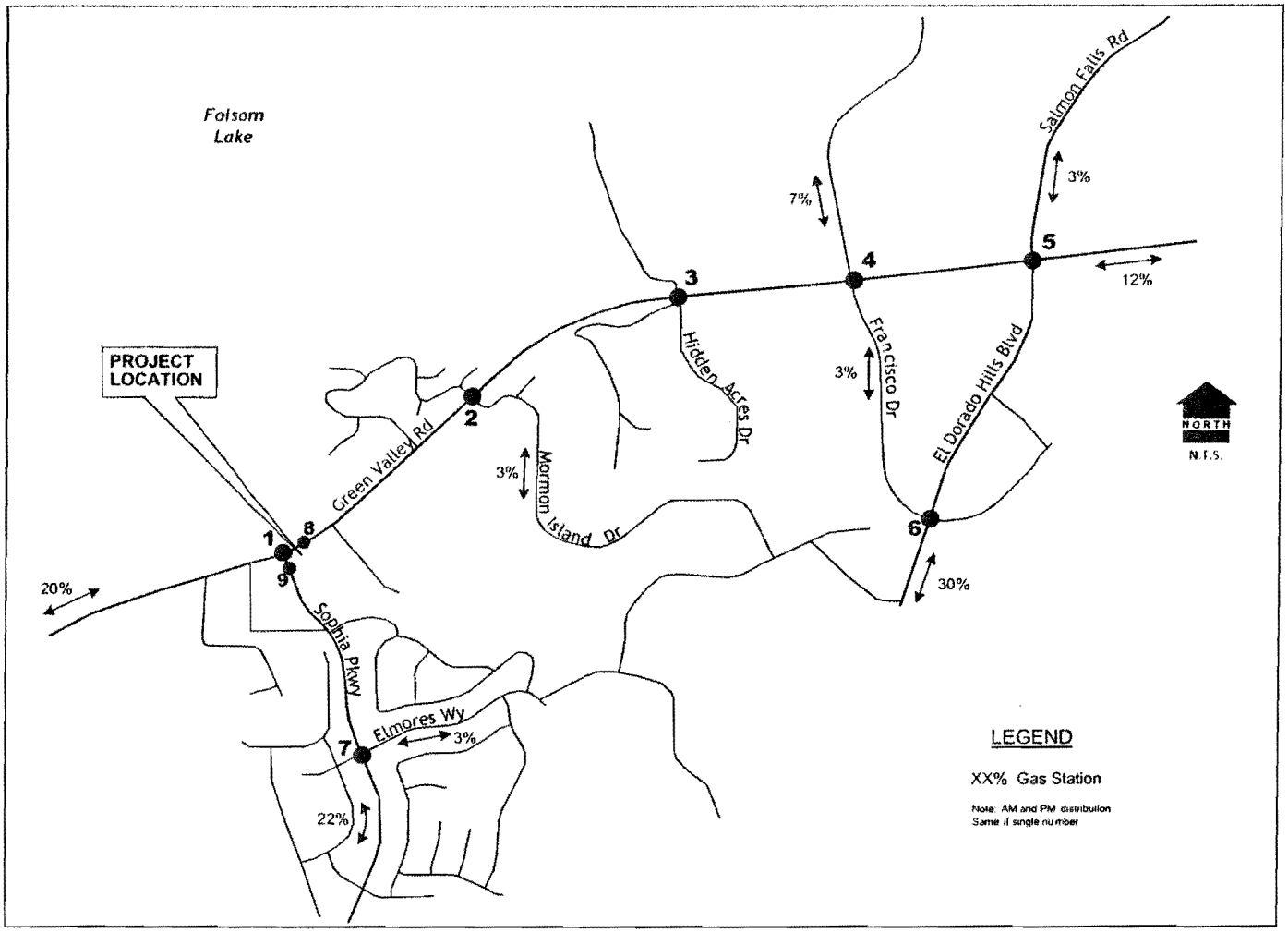
TABLE 4
PROJECT TRIP DISTRIBUTION

Route	% of Total Trips
West on Green Valley Road to / from Folsom	20%
South to / from Sophia Parkway	
Split to Sophia Parkway (South)	22%
Split to Elmores Way (East)	3%
East to / from Green Valley Road	
Split to Francisco Blvd (North)	7%
Split to Francisco Blvd (South)	3%
Split to El Dorado Hills Blvd (South)	30%
Split to Green Valley Road (East)	12%
Split to Mormon Island Drive	3%
Total	100%

Existing Plus Project Conditions

The impacts of developing the project uses on the project site have been identified by superimposing project traffic onto background conditions. Figure 6 displays the "Existing Plus Project" condition for each study intersection in both a.m. and p.m. peak hours. Resulting intersection Levels of Service were then calculated and used as the basis for evaluating potential project impacts.

Intersection Levels of Service. Table 5 displays the peak hour Levels of Service at each study intersection comparing the existing levels of service with the levels of service with this project. All intersections except the El Dorado Hills Blvd / Francisco Road intersection will continue to operate within accepted County guidelines, at LOS E or better. The El Dorado Hills Blvd / Francisco Road intersection will continue to operate at LOS F.



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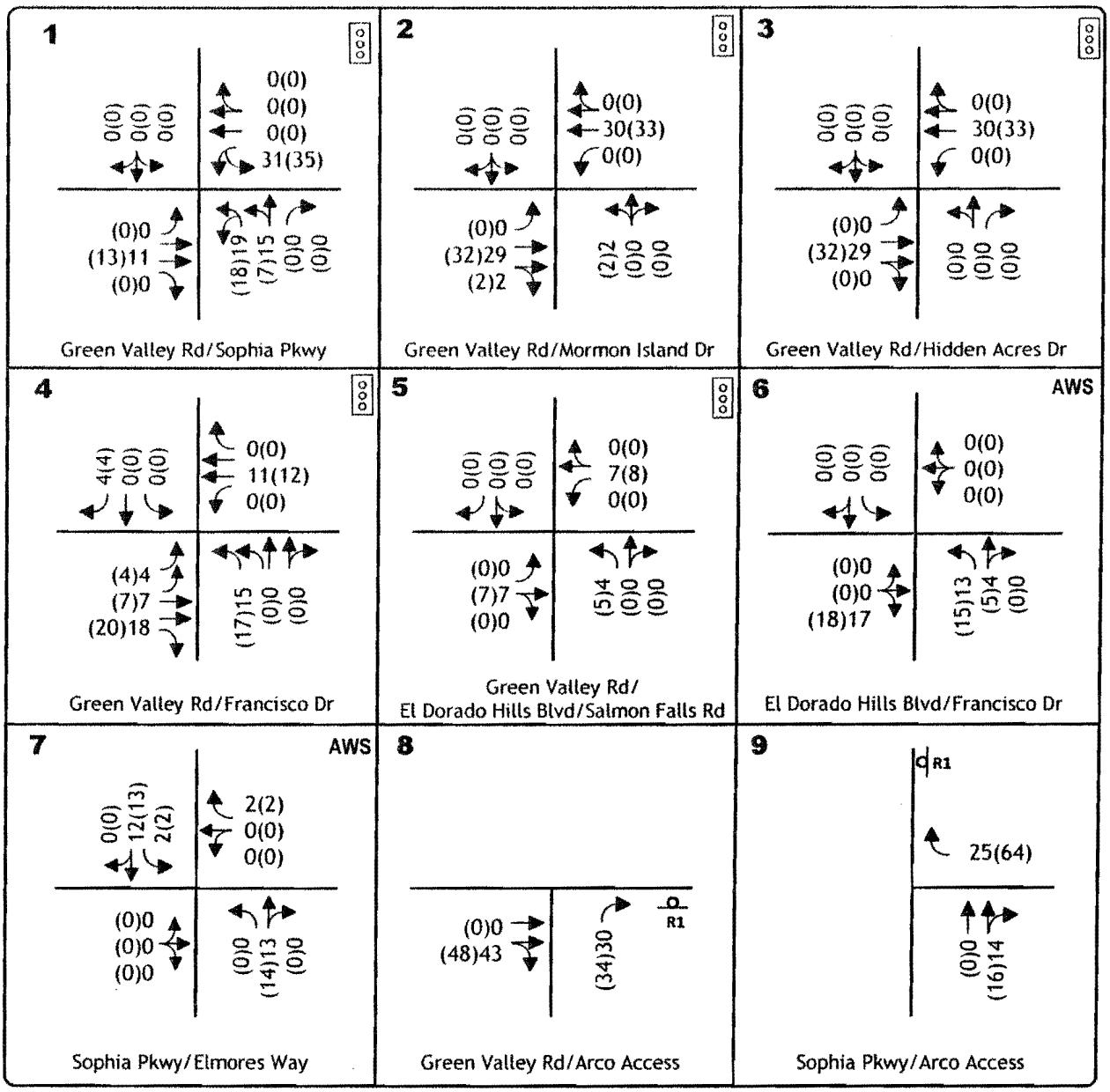
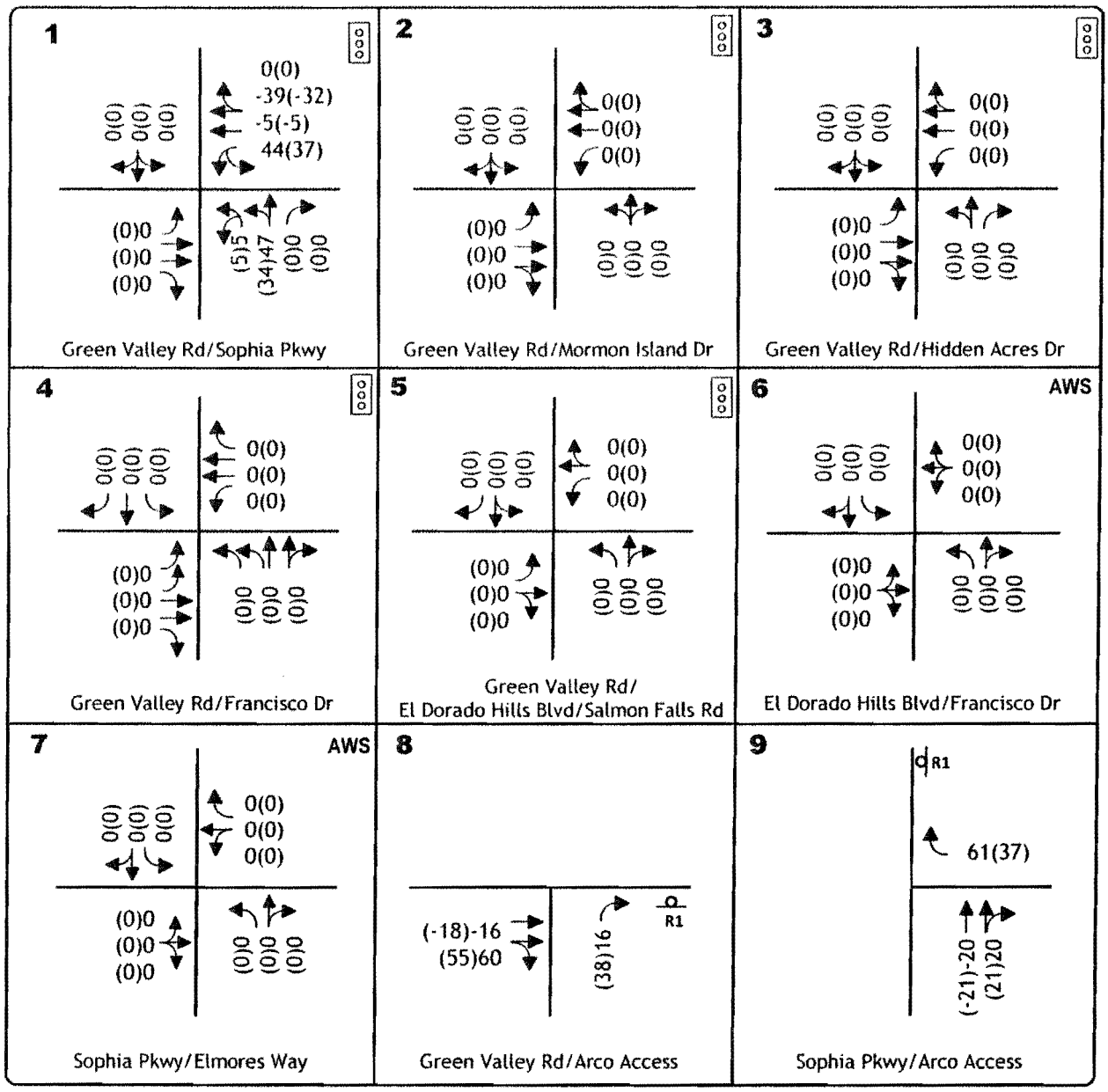
TRIP DISTRIBUTION

figure 4



NEW PROJECT TRIPS ONLY



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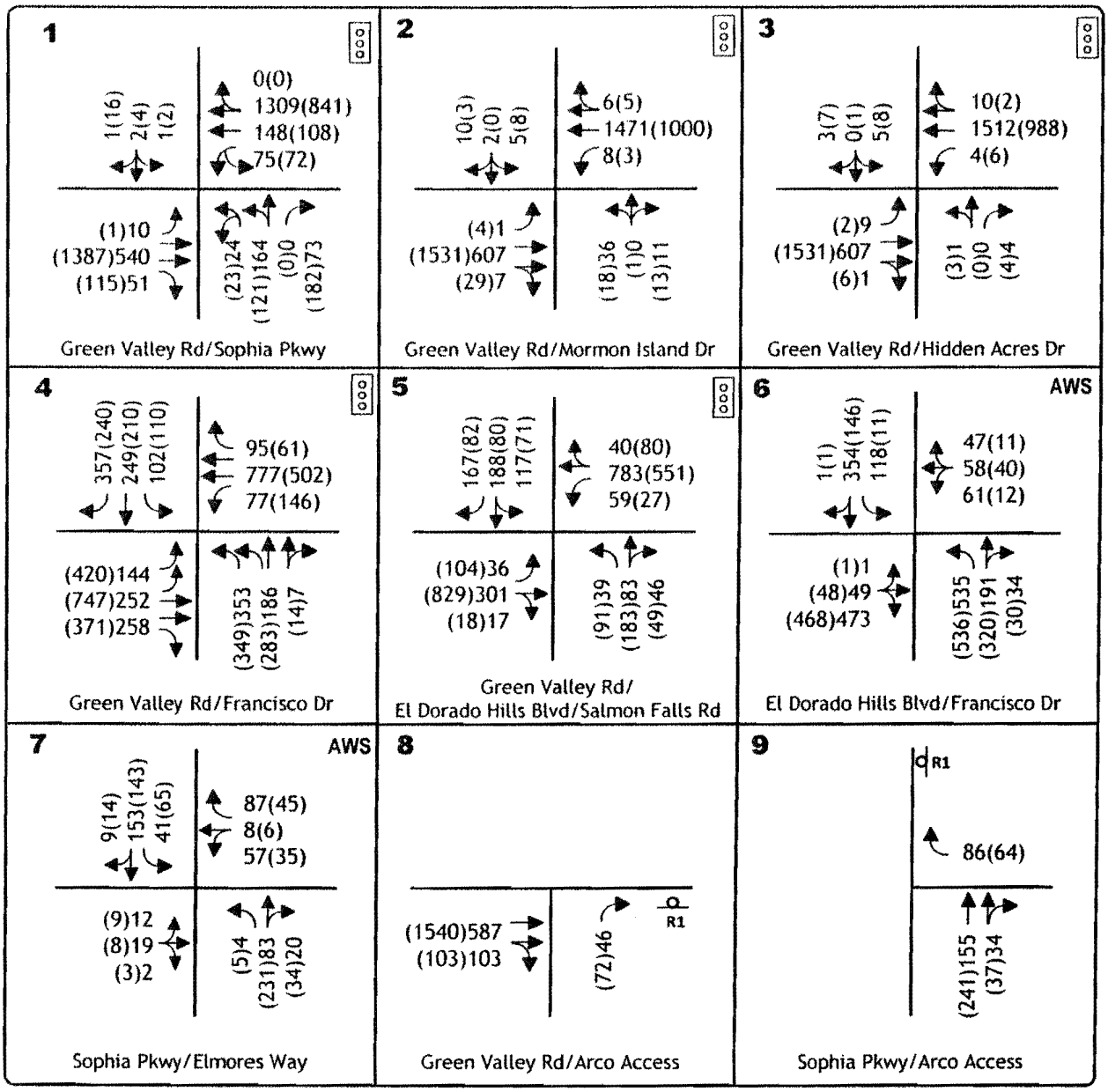
PASS-BY PROJECT TRIPS ONLY

figure 5b



EXISTING PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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figure 6

TABLE 5
PEAK HOUR INTERSECTION LEVELS OF SERVICE
EXISTING PLUS PROJECT CONDITIONS

Location	Control	AM Peak Hour		PM Peak Hour		AM Peak Hour Plus Project		PM Peak Hour Plus Project		Traffic Signal Warranted?
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	
1. Green Valley Rd / Sophia Parkway	Signal	B	15.6	B	15.8	B	18.1	C	24.5	N/A
2. Green Valley Rd / Mormon Island Dr	Signal	A	6.4	A	5.1	A	6.5	A	8.5	N/A
3. Green Valley Rd / Hidden Acres Dr	Signal	A	3.0	A	4.5	A	5.7	A	5.8	N/A
4. Green Valley Rd / Francisco Dr	Signal	C	34.3	D	48.1	D	44.7	D	48.3	N/A
5. Green Valley Rd / El Dorado Hills Blvd – Salmon Falls Rd	Signal	E	74.1	E	65.1	E	69.7	E	72.7	N/A
6. El Dorado Hills Blvd / Francisco Dr										
Overall	AWS	F	107.6	F	59.7	F	116.2	F	67.7	Yes
NB		F	163.7	F	83.8	F	174.5	F	95.3	
SB		E	45.3	B	13.5	E	45.3	B	13.7	
EB		F	112.2	F	38.5	F	125.9	E	43.8	
WB		C	19.8	B	11.9	C	19.8	B	12.0	
7. Sophia Parkway / Elmores Way										
Overall	AWS	A	8.0	A	8.9	A	8.2	A	9.1	No
NB		A	7.7	A	9.7	A	7.9	B	10.1	
SB		A	8.3	A	8.2	A	8.5	A	8.4	
EB		A	8.9	A	9.1	A	8.9	A	9.2	
WB		A	7.6	A	7.8	A	7.7	A	7.9	
8. Green Valley Rd / Gas Station Access										
NB	NB Stop	N/A	N/A	N/A	N/A	A	9.4	B	10.8	No
9. Sophia Parkway / Gas Station Access										
WB	WB Stop	N/A	N/A	N/A	N/A	A	9.7	B	10.2	No

AWS – all way stop
N/A – not applicable

KDA

EXISTING PLUS APPROVED PROJECTS IMPACTS (2017)

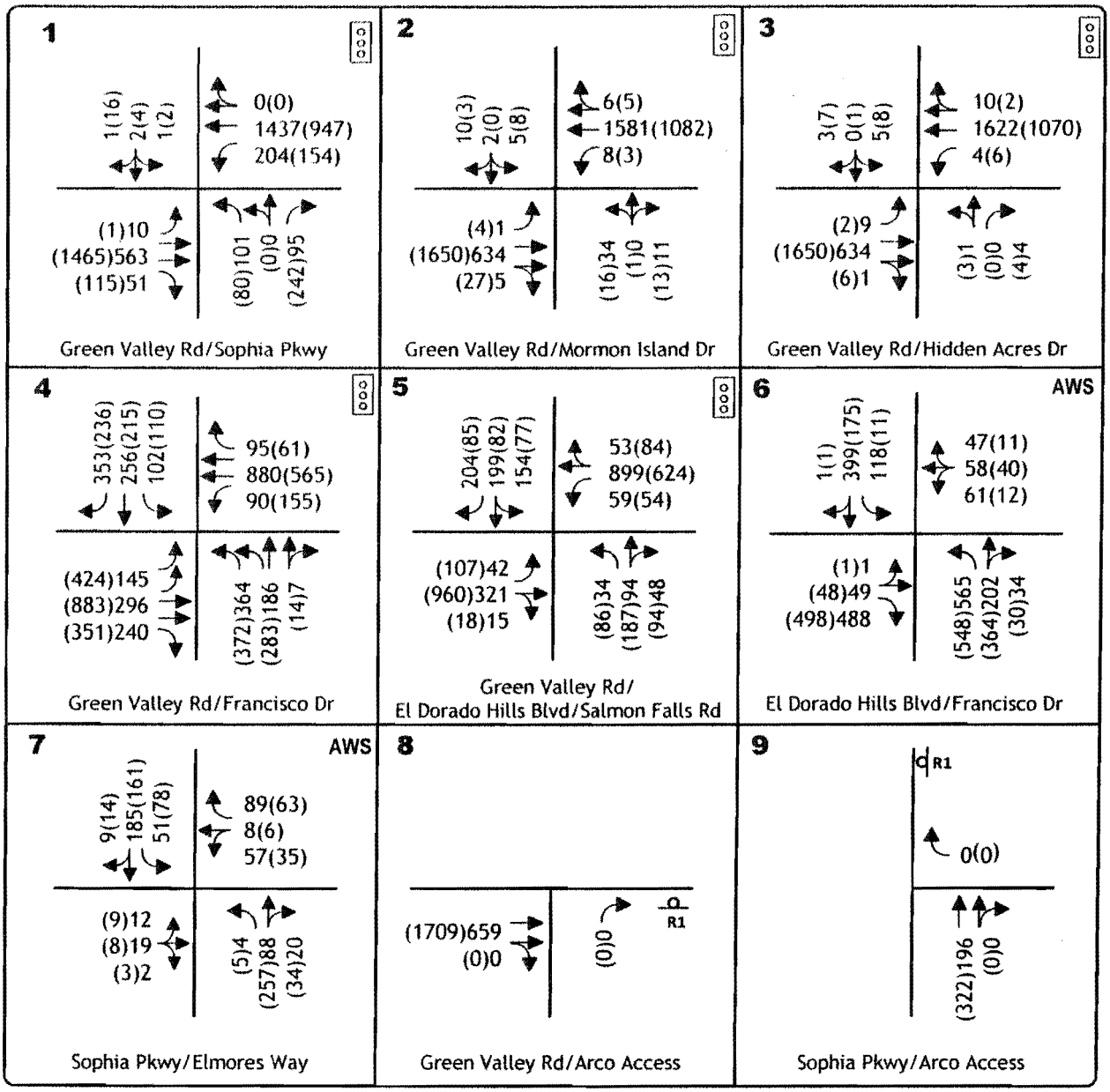
The analysis of the near term 2017 cumulative condition is intended to consider the impact of this project within the context of the "Existing Plus Approved Projects" (EPAP) conditions by 2017. The County uses two methodologies to determine future short term turning movements. The two methodologies include adding the approved projects in the vicinity to current turning movement counts and interpolating the growth based on the existing County traffic model.

Traffic projections for 2025 were provided from the County traffic model data. Peak hour roadway segment volumes for 2017 were calculated using straight-line interpolation as requested by County staff. Turning movements for each of the study intersections were developed using the Furness forecasting methodology. Approved / pending projects (APP) in the vicinity were reviewed to determine which volumes governed. Three projects in the vicinity were identified by County staff, Wilson Estates, Green Valley Center and Dixon Ranch. The APP volume projections governed at all intersections except the Green Valley Road / El Dorado Hills Blvd intersection where the model interpolation volumes governed in the A.M. peak hour. A comparison of the 2017 volumes using both methodologies is provided in Appendix B.

Year 2017 Lane Configurations. 2017 lane configurations along Green Valley Road are consistent with the existing four-lane roadway from just west of Sophia Parkway to El Dorado Hills Blvd. Based on direction from the County an eastbound right turn lane along Francisco Drive is assumed at the intersection of El Dorado Hills Blvd.

Intersection Levels of Service. Table 6 displays the a.m. and p.m. peak hour Levels of Service at each study intersection in the "Existing Plus Approved Project" condition. Figure 7 displays the EPAP 2017 traffic volumes with the lane configurations for each study intersection. Six of the intersections will operate within County LOS standards, operating at LOS E or better. The El Dorado Hills Blvd / Francisco Drive intersection will operate at LOS F. This intersection will meet the peak hour traffic signal warrant.

Existing Plus Approved Projects Plus Project Intersection Levels of Service. Figure 8 displays the "Existing Plus Approved Projects" (2017) plus Project volumes and lane configurations at each study intersection. Table 6 displays the a.m. and p.m. peak hour Levels of Service at each study intersection in this scenario. Six of the seven study intersections and each of the project access intersections will operate at acceptable levels of service, at LOS E or better. The El Dorado Hills Blvd / Francisco Drive intersection will continue to operate at LOS F and will meet the peak hour traffic signal warrant.



YEAR 2017 TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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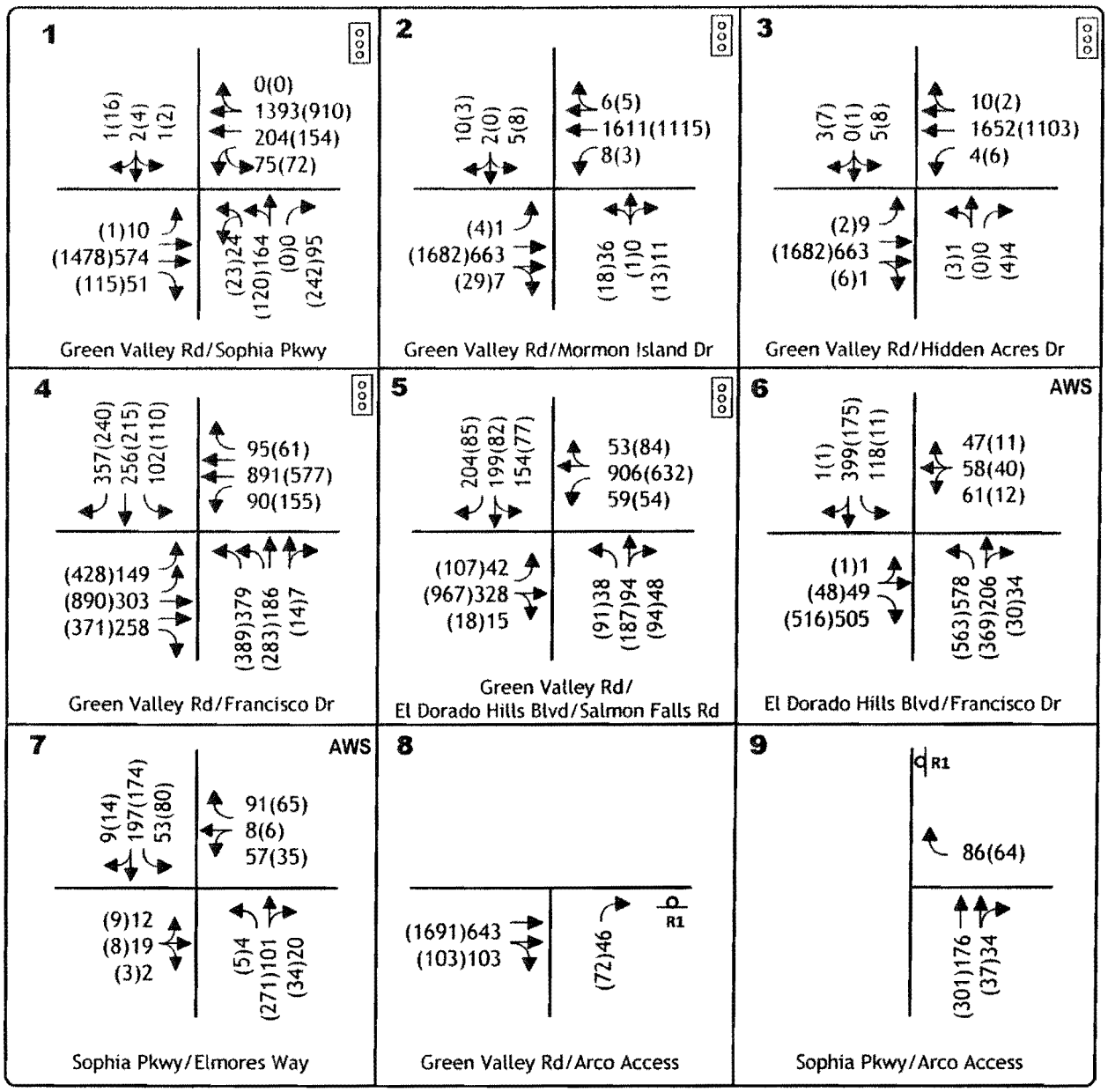
figure 7



YEAR 2017 PLUS PROJECT
TRAFFIC VOLUMES AND LANE CONFIGURATIONS

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figure 8

TABLE 6
AM / PM PEAK HOUR INTERSECTION LEVELS OF SERVICE
EXISTING PLUS APPROVED PROJECTS (2017) PLUS PROJECT CONDITIONS

Location	Control	2017 AM Peak Hour		2017 PM Peak Hour		2017 AM Peak Hour Plus Project		2017 PM Peak Hour Plus Project		Traffic Signal Warranted?
		LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	
1. Green Valley Rd / Sophia Parkway	Signal	C	28.2	C	21.3	C	31.9	C	24.4	N/A
2. Green Valley Rd / Mormon Island Dr	Signal	A	6.2	A	9.0	A	6.1	A	3.8	N/A
3. Green Valley Rd / Hidden Acres Dr	Signal	A	4.5	A	3.2	A	3.7	A	2.3	N/A
4. Green Valley Rd / Francisco Dr	Signal	D	42.1	D	42.6	D	42.4	D	48.9	N/A
5. Green Valley Rd / El Dorado Hills Blvd – Salmon Falls Rd	Signal	E	76.4	E	73.3	E	71.5	E	77.0	N/A
6. El Dorado Hills Blvd / Francisco Dr	AWS									
Overall		F	134.5	F	82.1	F	143.6	F	90.4	Yes
NB		F	208.2	F	109.0	F	219.6	F	118.0	
SB		F	70.5	C	15.7	F	70.6	C	15.7	
EB		F	121.2	F	66.5	F	136.1	F	76.7	
WB		C	22.0	B	13.1	C	22.0	B	13.1	
7. Sophia Parkway / Elmores Way	AWS									
Overall		A	8.5	A	9.6	A	8.7	A	9.9	No
NB		A	8.1	B	11.0	A	8.3	B	11.4	
SB		A	9.0	A	8.7	A	9.2	A	8.9	
EB		A	9.1	A	9.4	A	9.2	A	9.4	
WB		A	7.9	A	8.1	A	8.0	A	8.2	
8. Green Valley Rd / Gas Station Access NB	NB Stop	N/A	N/A	N/A	N/A	A	9.2	B	11.3	No
9. Sophia Parkway / Gas Station Access WB	WB Stop	N/A	N/A	N/A	N/A	A	9.4	A	9.8	No

N/A – not applicable

KDA

Queuing

A queuing analysis was conducted to determine the impact of the project at all study intersections where queue spillback is anticipated. Table 7 presents the 95th percentile queues at intersections where the project will add more than 10 peak hour trips or where the existing turn lanes are less than 100 feet. A 95th percentile confidence level means that the forecast queue length should be exceeded only 5% of the time.

Five intersections meet the criteria above. These include:

- Green Valley Road / Sophia Parkway
  - Westbound Left (225')
  - Northbound Left (2x 200')

- Green Valley Road / Hidden Acres Drive
  - Northbound Right (30')

- Green Valley Road / Francisco Road
  - Northbound Left (215')
  - Eastbound Right (220')

- Green Valley Road / El Dorado Hills Blvd
  - Eastbound Left (85')

- Francisco Road / El Dorado Hills Blvd
  - Northbound Left (80')

The analytical procedures for all-way stop-controlled intersections in the Highway Capacity Manual 2000 lack a model to estimate the 95th percentile queue length. To estimate queue length at all –way stop controlled intersections the methodology developed by *Tian and Kyte* was used to determine projected queues in the turn lanes at the El Dorado Hills Blvd / Francisco Road intersection.

The queuing analysis indicates that the westbound left turn lane at the Green Valley Road / Sophia Parkway intersection will be exceeded in 2017 under 'No Project' and 'Plus Project' conditions. In the 'No Project' condition the queue will exceed the turn pocket by about 10' in the a.m. peak hour. In the 'Plus Project' condition the queues will exceed the turn pocket length by about 125'. This turn lane will need to be extended.

The eastbound left turn lane at the Green Valley Road / El Dorado Hills Blvd intersection is currently inadequate to accommodate p.m. peak hour volumes. The existing deficit is about 130' and could decrease under the Existing plus Project condition. This is due to optimizing the timing along the corridor which resulted in a change in timing at the intersection. The queue length may shorten in 2017 under 'No Project' and 'Plus Project' conditions; however, the queues will continue to extend beyond the existing turn pocket. This would be due to

optimization of the signal timing through the corridor. In 2017 the eastbound queue is projected to be 168' in the No Project condition and about 145' in the 'Plus Project' and Plus Project' condition.

Queues in the northbound left turn lane at the El Dorado Hills Blvd / Francisco Drive intersection currently overflow into the through lane as most northbound traffic uses this movement. The a.m. queue currently exceeds 1,000' and will worsen significantly by 2017. This intersection operates at LOS F and meets the peak hour signal warrant.

TABLE 7
PROJECTED 95th PERCENTILE QUEUES

Location	Exist		Exist + Project		2017		2017 + Project	
	AM	PM	AM	PM	AM	PM	AM	PM
1. Green Valley Rd / Sophia Parkway								
NB Left (2x200')	69'	49'	97'	96'	69'	74'	155'	108'
WB Left (225')	177'	191'	222'	226'	236'	204'	**325'**	**344'**
3. Green Valley Rd / Hidden Acres Dr								
NB Right (30')	0'	0'	0'	0'	0'	0'	0'	0'
4. Green Valley Rd / Francisco Dr								
NB Left (215')	183'	189'	198'	196'	197'	209'	220'	211'
EB Right (220')	226'	219'	150'	209'	204'	217'	134'	200'
5. Green Valley Rd / El Dorado Hills Blvd								
EB Left (85')	81'	**201'**	94'	**217'**	**112'**	**168'**	**128'**	**145'**
6. Francisco Rd / El Dorado Hills Blvd *								
NB Left (80')	**1,385'**	**825'**	**1,500'**	**945'**	**1,840'**	**1,075'**	**1,971'**	**1,185'**
EB Right (350' assumed in EPAP)	n/a	n/a	n/a	n/a	**825'**	**505'**	**940'**	**585'**

Bold indicates turn lane length exceeded
* assumed 20' per vehicle
n/a – not applicable

GREEN VALLEY ROAD / SOPHIA PARKWAY INTERSECTION EVALUATION

Design Vehicle Access

Access to the Arco AM/PM site will be from either Green Valley Road or Sophia Parkway to enter and depart the site. The County has indicated that they may allow U-turns to be made at the Green Valley Road / Sophia Parkway intersection; however, there are likely to be conditions for the project such as a raised median along the Green Valley Road project frontage and the potential of shifting the sidewalk along the Green Valley Road project frontage to facilitate the movement.

If a U-turn is not allowed at this intersection vehicles would have to make a U-turn either at the Sophia Parkway / Corsica Drive intersection. Similarly, a vehicle exiting the site heading south on Sophia Parkway would have to make a U-turn at the Green Valley Road / Amy Lane intersection if one cannot be made at the Green Valley Road / Sophia Parkway intersection.

The County has requested that three design vehicles be examined. The three vehicles included a passenger car, a single unit truck and a 40' truck. The assessment of these movements was conducted using the *AutoTURN* software prepared by Transoft. This software implements procedures described in the American Association of State and Highway Transportation Officials (AASHTO) document *A Policy on Geometric Design of Highways and Streets*, and the Caltrans *Highway Design Manual*. The program is a CADD based program that simulates low speed turning maneuvers for highway vehicles. The program is used to define vehicle tire tracking and sweep paths in order to design roadway features to meet minimum design vehicle constraints.

Results

Passenger Cars: Figure 9 shows the turning tracks for both westbound Green Valley Road and northbound Sophia Parkway. A passenger car can complete a U-turn for both westbound and northbound directions within the paved travel way.

Single Unit Truck: Figure 10 presents the results of a 30-foot single unit truck completing both westbound and northbound U-turn movements. The southeast and southwest quadrants of the intersection will require realignment in order for a single unit truck to complete the U-turn. The sidewalks would need to be pulled back by their width, about 10 feet. While this could be done in the southeast quadrant where the project is located the project applicant has no control over the southwest quadrant.

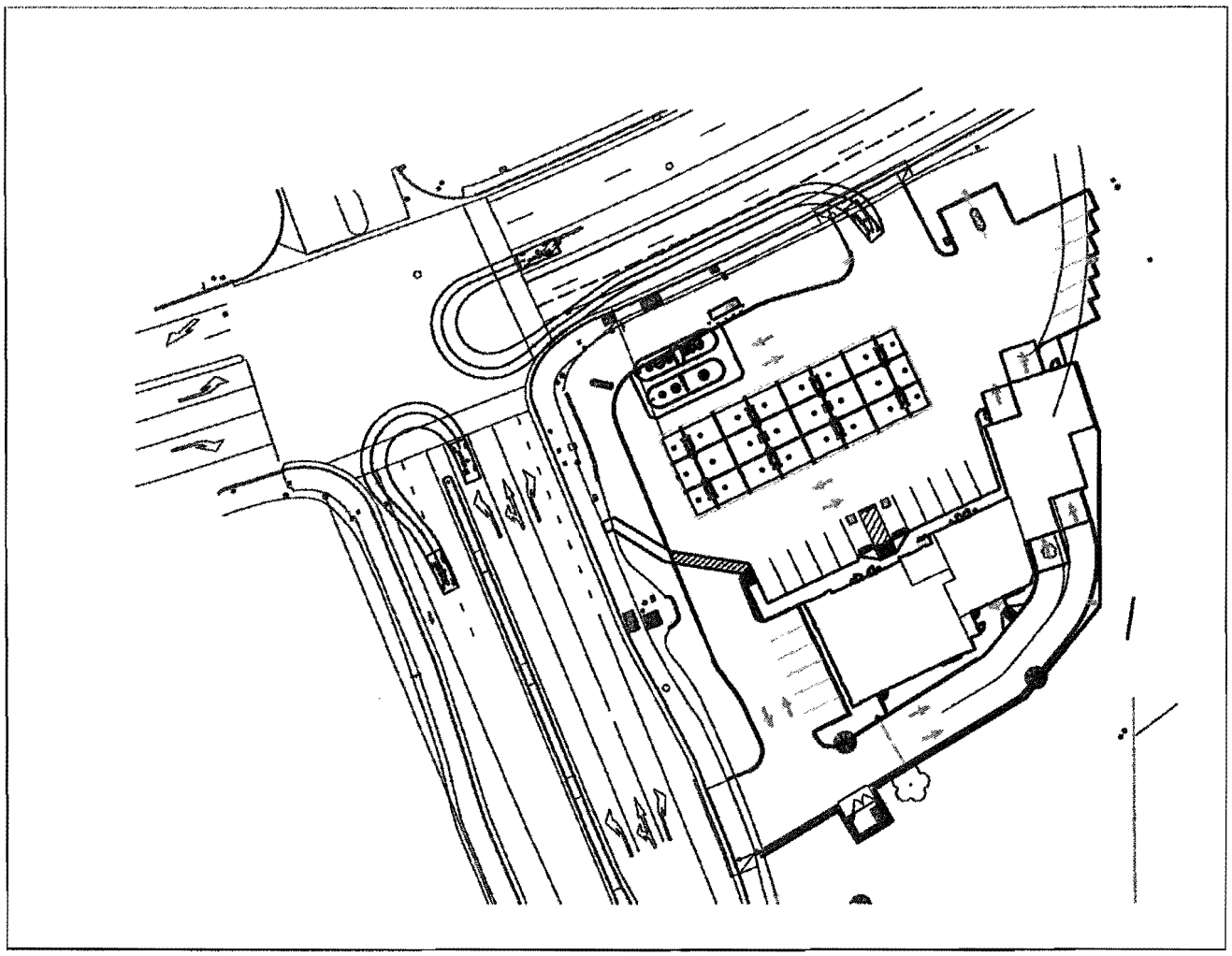
40-foot Truck: Figure 11 presents the results of a 40-foot truck completing westbound and northbound U-turn movements. A truck of this size would have to enter into the intersection and would require improvements throughout the south half of the intersection for this vehicle to complete the U-turn. These movements would require redesign of both quadrants, likely altering the sites uses due to County frontage requirements.

The General Plans of both El Dorado County and the City of Folsom indicate that Sophia Parkway consists of primarily residential neighborhoods with limited commercial development to the far south. With the proposed land uses there are likely to be few instances when a single-unit truck or 40' truck will deliver goods along Sophia Parkway. It is recommended that all delivery vehicles approach the project site from either Green Valley Road to the west or Sophia Parkway to the south. No U-turns will therefore be required for these vehicles. Commercial vehicles exiting the site can use the driveway along Green Valley Road to travel east or use the Sophia Parkway driveway to travel west.

Emergency Vehicle Access

All project access driveways will be right-in, right-out access. Emergency vehicle response may require a U-turn depending on the direction of approach. The primary access for fire and medical response would be from El Dorado Hills Station 84 located along Francisco Drive, northeast of the project. Secondary response could be from the City of Folsom's Station 38 along Blue Ravine Road (Green Valley Road), west of the project site.

Figure 12 presents the *Autoturn* analysis which indicates that fire apparatus can complete a U-turn along westbound Green Valley Road. In addition, if fire apparatus had to respond to a call along Sophia Parkway, they can complete a U-turn from northbound Sophia Parkway. Secondary access from Folsom and access from either the north or south approaches of the intersection will be via a right turn into the site along Green Valley Road or Sophia Parkway.



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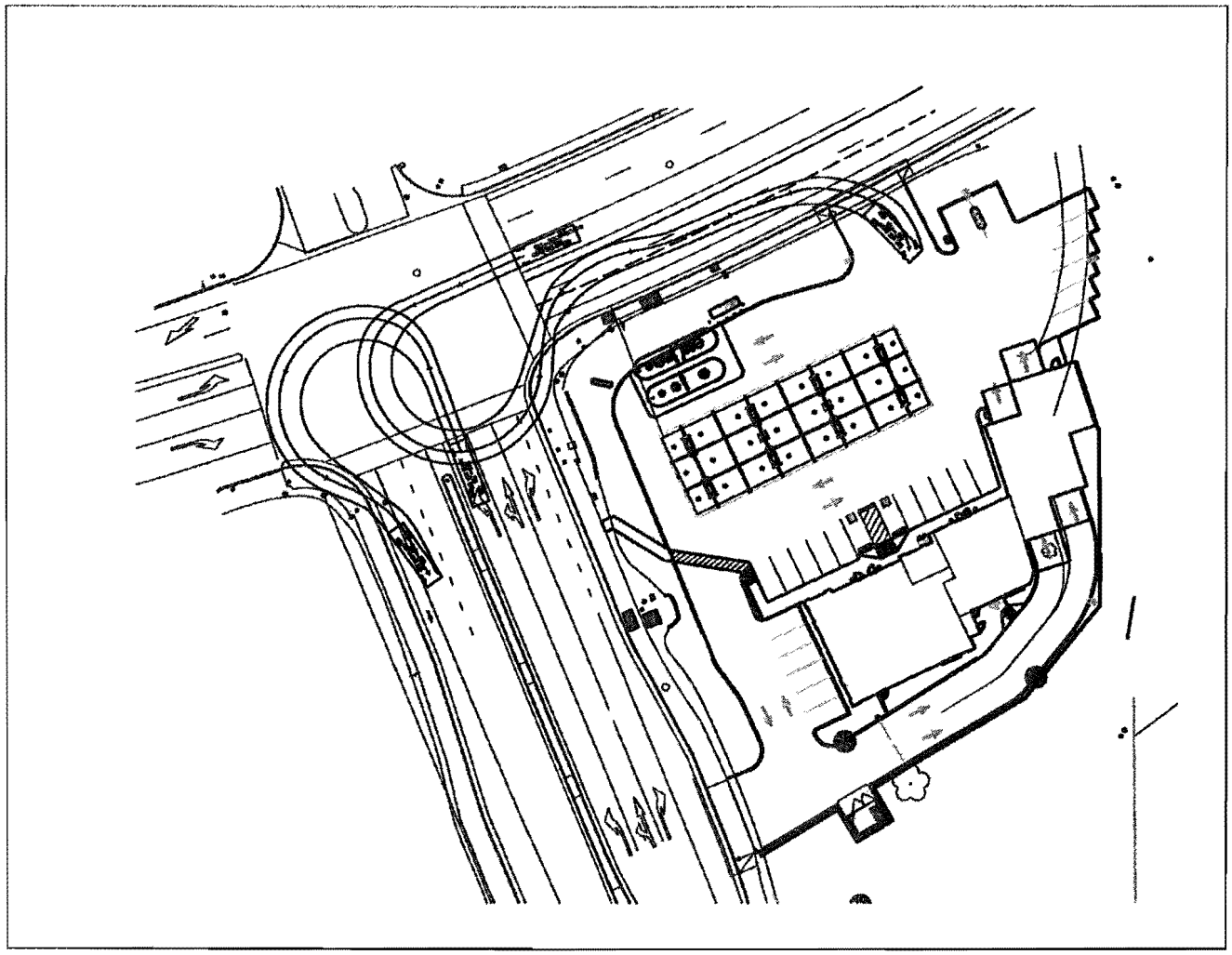
AUTO TURN - PASSENGER CAR

1260-001 LT 5/23/2013

figure 9



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AUTO TURN - SINGLE UNIT TRUCK

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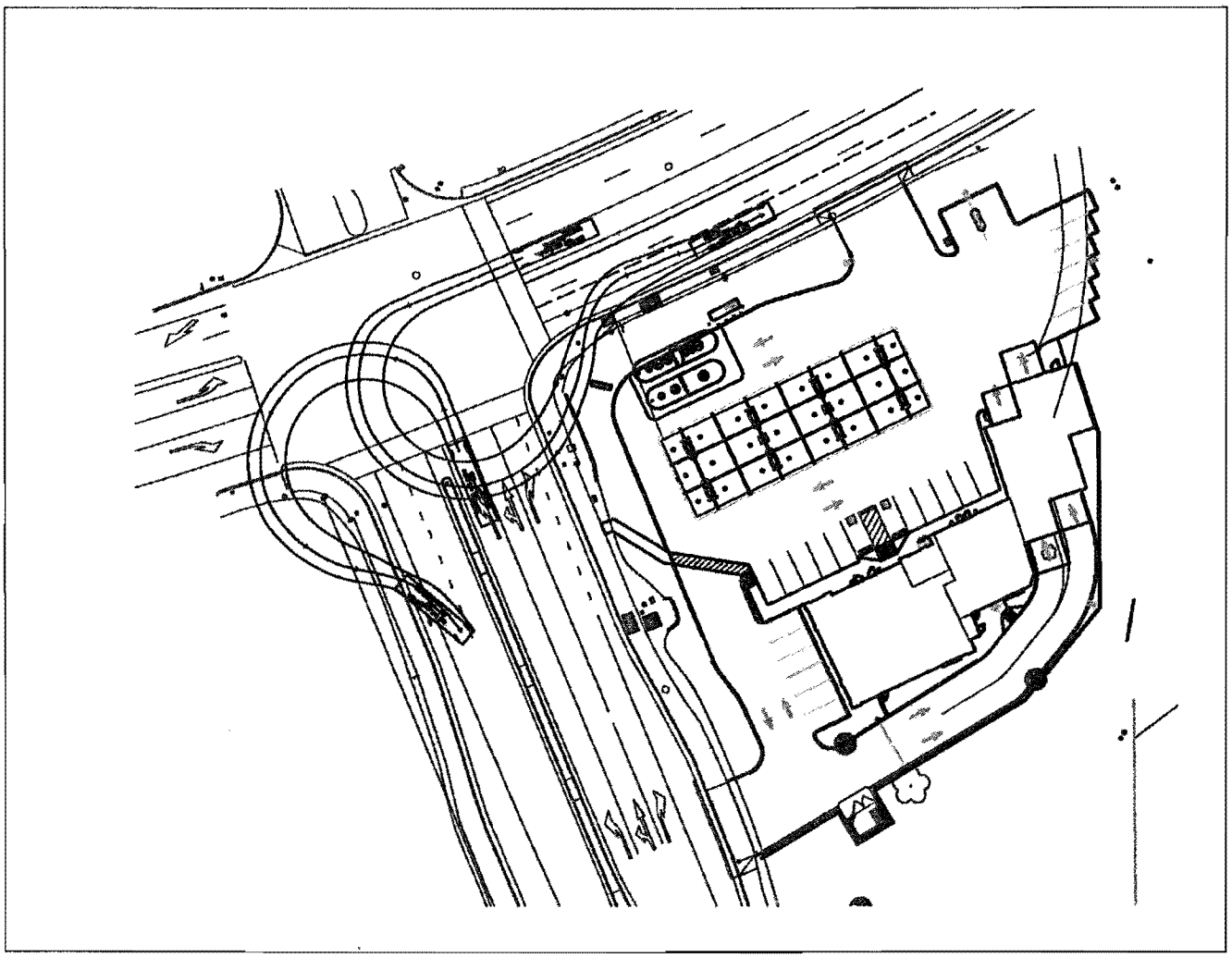
figure 10



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AUTO TURN - 40' TRUCK

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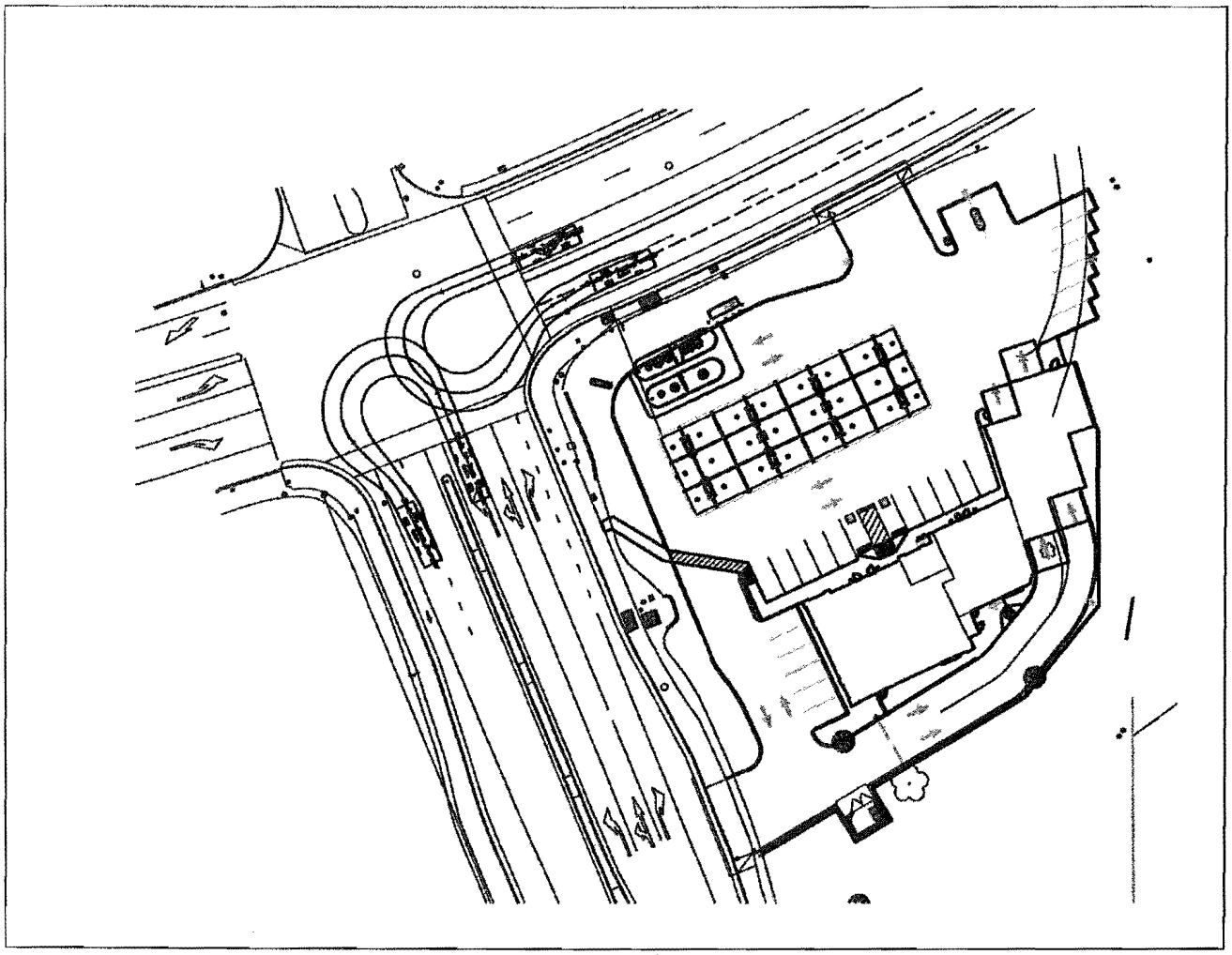
figure 11



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AUTO TURN - FIRE APPARATUS

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figure 12

TRAFFIC SAFETY

Accident History

2007 Annual Accident Location Study. Accident History in the vicinity of the project has been determined based on information contained in El Dorado County Department of Transportation's *2007 Annual Accident Location Study (AALS).* That report identifies countywide problem locations, summarizes accident data and suggests safety improvements.

From a review of AALS Chapters 1-7 the accident history identifies numerous locations along Green Valley Road that have experienced more than three accidents during 2007. Three segments along Green Valley Road were defined based on the geometry of the roadway. Segment 1 includes Green Valley Road, from Sophia Parkway to Miller Road. As noted in Chapter 6 of the AALS this segment has been widened to a four lane divided highway which includes left turn lanes and a raised median. Segment 2 extends from Miller Road to about 775' east of Francisco Road. This segment includes four lanes plus turn lanes and raised medians from about 600 feet west of Francisco Road to about 775' east of Francisco Road. The final segment extends from about 775 feet east of Francisco Road to El Dorado Hills Blvd. Section 3 identifies locations not requiring further action. Segments 2 and 3, Francisco Road and El Dorado Hills are identified in this section.

A fourth segment was also considered, along Sophia Parkway from Green Valley Road to Alexandra Drive. Table 8 identifies the total accidents along Green Valley Road in 2007 along the four segments.

TABLE 8
2007 ACCIDENTS

Road	Segment	No. of Accidents
Green Valley Road	#1 - Sophia Parkway to Miller Road	20
	#2 - Miller Road to 775' east of Francisco Road*	6
	#3 - 775' East of Francisco Road to El Dorado Hills Blvd*	4
Alexandra Drive	#4 - Green Valley Road to Alexandra Drive	1

* locations not required further evaluation per AALS

Statistical Evaluation. The AALS denotes procedures for determining the statistical significant of the areas accident history. Measured on a "per million entering vehicles" basis, the expected accident frequency rate for County road intersections is 1.0 accident per million entering vehicles and 1.70 for roadway segments.

Chapter 1 of the AALS identifies the accidents that occurred in 2007. During this time period 8 accidents occurred along Green Valley Road in Segment 1. This had a corresponding accident rate of 1.64 accidents per million vehicle miles. Chapter 2 of the AALS provides a summary of the accident locations sites over the three-year period 2005 – 2007. During this time period 33 accidents were recorded with a corresponding accident rate of 1.33. Chapter 6 of the AALS identifies that the segment was improved with roadway widening including medians and left turn lanes and signalization of various intersections. No additional improvements were identified in Chapter 7.

Segments 2 and 3 along Green Valley Road were identified in Section 3 of the AALS as not requiring further review. This was based on a review of accidents in the three year period 2005 – 2007 and it was determined that the sites are currently in satisfactory condition.

Accident data for the remaining segment, Sophia Parkway between Green Valley Road and Alexandra Drive was reviewed to determine whether this segment has an accident rate exceeding the County's average rate. One accident was identified in 2007 resulting in an accident rate of 0.72 accidents per million vehicle miles. This is within the County guidelines and is below the County threshold. No further review is necessary at this time.

NON-MOTORIZED TRANSPORTATION

Sidewalks are generally provided within El Dorado County in urban areas. In the area near the project sidewalk exists along Sophia Parkway from Green Valley Road to Elmores Way. Widening along Green Valley Road is also providing sidewalk along area of improvement. Sidewalk along the perimeter of the project provides pedestrian connectivity to and from each of the project sites.

Few designated bicycle routes currently exist throughout El Dorado County due to the rural nature of the county. In the project vicinity, bike lanes exist along Sophia Parkway; however, along Green Valley Road, the roadway includes a widened shoulder to provide a bicycle route between Folsom and the El Dorado Hills / Cameron Park communities. The El Dorado County Bicycle Transportation Plan identifies future Class II bike lanes along Green Valley Road connecting the existing Class II facility in Folsom and extending east past Cameron Park Drive. This is a Tier 1 (highest priority) improvement. Bicycle lanes are also identified along Ambiance Drive, connecting Sophia Parkway to El Dorado Hills Blvd via Brittany Way. This is identified as a Tier 2 project.

SIGHT DISTANCE

A sight distance analysis was completed at each project driveway to determine whether adequate sight distance will be present with the project completed. Available sight distance was evaluated for the existing intersection using the standards documented in the Caltrans *Highway Design Manual* (HDM). The most significant evaluation parameter is the availability of "**Minimum Safe Stopping Distance**" (MSSD). This criterion is documented in Table 201.1 of the Highway

Design Manual and suggests the minimum sight distance that must be available for a motorist to perceive a hazard in the road and come to a stop. This criterion was used to evaluate the project driveways.

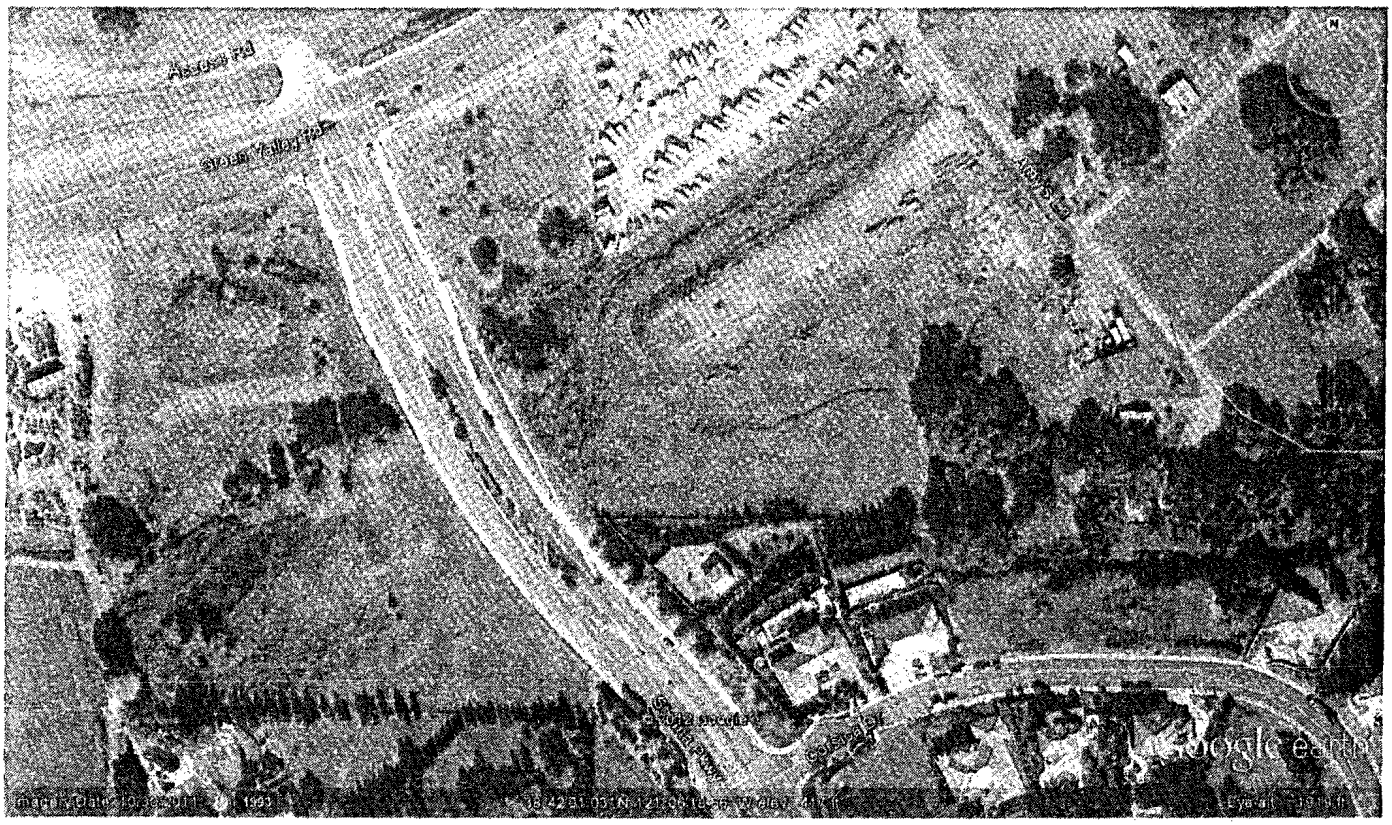
The posted speed along Green Valley Road and Sophia Parkway is 50 mph. The corresponding minimum sight distance standard for this speed is 430'.

Green Valley Road has generally a slight uphill grade (4%±) from west of Sophia Parkway to east of the project site. The proposed driveways are located at the far east and south sides of the site, along Green Valley Road and Sophia Parkway. The project frontage is located on the outside edge of a horizontal curve with a radius of about 2,800'. It is expected that right-in, right-out movements will be available at the Green Valley Road driveway; therefore, sight distance to the west was only considered. Visibility from the driveway along Green Valley Road looking to the west appears unobstructed with a line of sight along Green Valley Road of over 600'. This exceeds the MSSD required.

The grade along Sophia Parkway is relatively flat adjacent to the project but transitions into an uphill grade of about 8% about 400' south of the project site. The roadway also includes a reverse curve with the project frontage along the inside of the curve. Due to the road curvature the line of sight needed to meet the MSSD is about 20' behind the sidewalk at the widest point. The topography behind the back of sidewalk consists of a side slope down to existing fallow land. Adequate sight distance is present. A clear zone should be maintained as shown by the sight line in Figure 13 should development occur south of the project site.

ON-SITE QUEUING

The project includes a QSR with drive-through capabilities. A review of internal queuing for the drive-through lane was conducted to determine whether adequate queuing is available without obstructing other movements on site, including ingress and egress at the driveways. The project applicant has indicated that a Schlotzsky's Restaurant will be the operator of the quick service restaurant. Information provided by Schlotzsky's suggested that they require their queuing areas behind the menu board to accommodate at least four vehicles. Figure 14 displays the available queue length from the menu board located about 100' from the drive-thru entry. Five vehicles can be queued without encroaching into the travel aisle along the west side of the site. Circulation to and from the Sophia Parkway driveway can be completed without blocking vehicle access.



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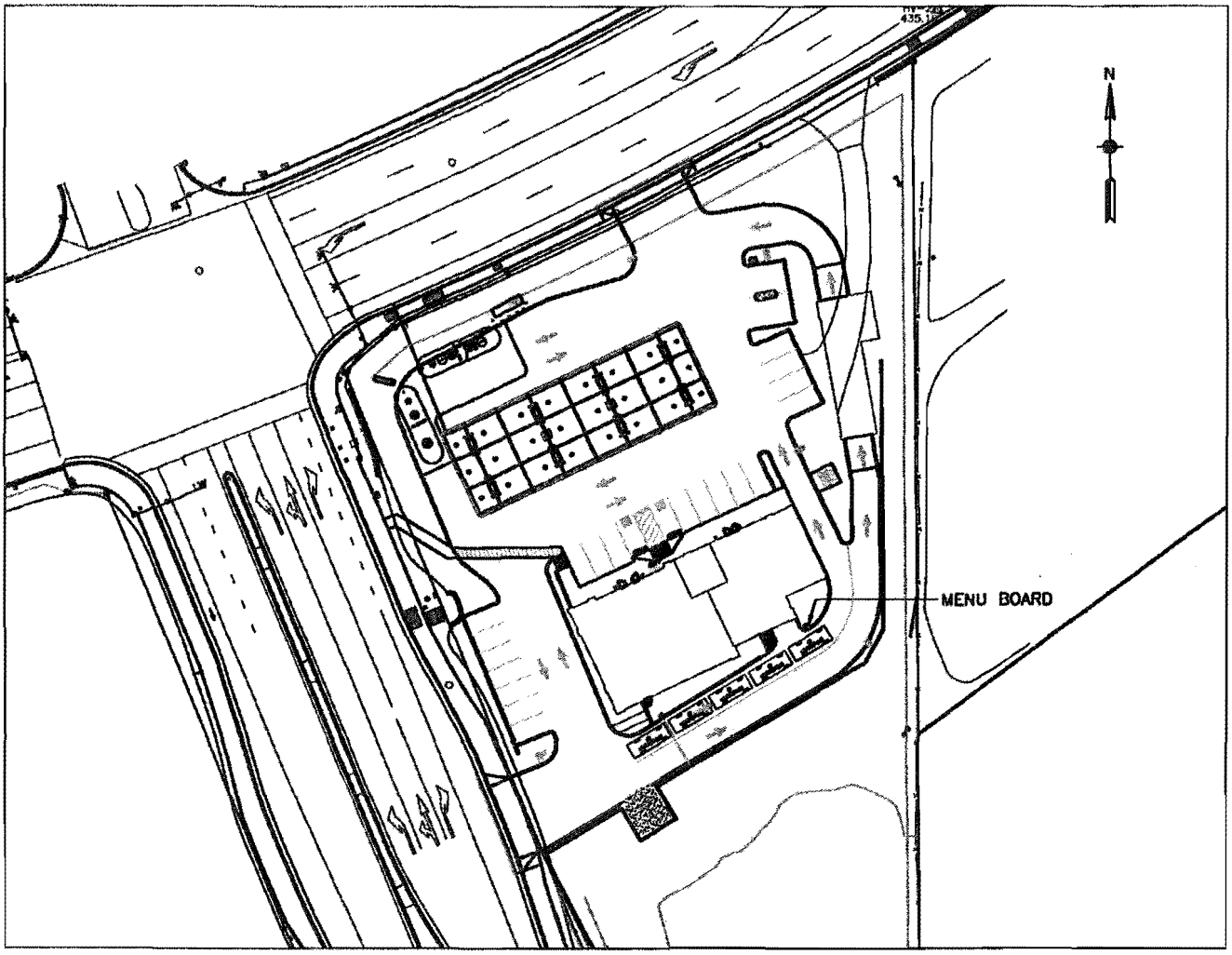
SIGHT DISTANCE ALONG SOPHIA PARKWAY

1280-001 LT 5/23/2013

figure 13



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MENU BOARD QUEUING

1260-001 LT 5/23/2013

figure 14

FINDINGS / RECOMMENDATIONS / MITIGATIONS

The preceding analysis has identified project impacts that may occur without mitigation. The text that follows identifies a strategy for mitigating the impacts of the proposed project. Recommendations are identified for facilities that have deficiencies in the roadway network without the project. If the project causes a significant impact, mitigations are identified for the facility. Table 9 provides a synopsis of the level of service for each intersection and any improvements, if feasible, needed to meet level of service thresholds.

Existing Conditions

Recommendations. The El Dorado Hills Blvd / Francisco Drive intersection currently operates at LOS F in both peak hours. This intersection does meet the peak hour signal warrant. Installation of a traffic signal would reduce the worst overall delays at the intersection to 39.4 seconds per vehicle in the a.m. peak hour and improve the operations at the intersection to LOS D. The northbound left turn lane is 80' and the queues in the left turn lane will spill into the through lane. The projected worst queue with signalization will be 550' and ultimately will be 565' in the 2017 time period. The northbound left turn lane should be extended to reduce spillback into the through lane. The County has identified this intersection for improvement in their Capital Improvement Program, CIP #72332. It is currently identified as a project to be completed in the next 20 years, after 2021.

No other recommendations are needed.

Mitigations for Existing + Project Conditions

- All intersections except the El Dorado Hills Blvd / Francisco Drive intersection will continue to operate at acceptable levels of service. With the recommendation above for the intersection, the intersection will continue to operate at LOS D (42.6 sec) or better. The queue in the northbound left turn lane will increase to 560'. The project shall pay their TIM fees for this intersection.

- The project shall install a median along Green Valley Road at the project frontage that will extend beyond the project driveway. The median shall extend past the project driveway to prevent turning movements across Green Valley Road. The length shall be 350'. To provide the required left turn storage for traffic turning onto Sophia Parkway the left turn lane can be striped as a dedicated left turn lane or, can be a combination of a dedicated left turn lane and the existing continuous left turn lane existing east of the project site.

- The existing 85' eastbound left turn lane at the Green Valley Road / El Dorado Hills Blvd is inadequate to service left turns and is an existing deficiency. The project will exacerbate the queues, specifically the p.m. queue by 16' in the p.m. peak hour to 217'. The project shall pay their TIM fees for this intersection.

- The project applicant shall identify approach and departure routes for delivery vehicles as single unit trucks and larger cannot make a U-turn along westbound Green Valley Road or along northbound Sophia Parkway. All delivery vehicles shall approach the site from either Green Valley Road west of Sophia Parkway or north along Sophia Parkway. Outbound delivery vehicles can proceed either east or west on Green Valley Road.

- The project applicant shall modify the southeast quadrant of the Green Valley Road / Sophia Parkway intersection to allow westbound U-turn movements. Improvements shall include modifications necessary to maintain the existing traffic signal system.

- The project shall contribute its fair share to the cost of regional circulation improvements, including CIP #72332, via the existing countywide traffic impact mitigation (TIM) fee program.

No other mitigations are needed.

2017 Conditions

Recommendations. All intersections will operate at acceptable levels of service with the installation of a traffic signal at the El Dorado Hills / Francisco Drive intersection, as identified in the Existing Conditions Recommendations.

No recommendations are needed.

Mitigations for 2017 + Project Conditions

All intersections will continue to operate at acceptable levels of service with the installation of a traffic signal at the El Dorado Hills / Francisco Drive intersection, as identified in the Existing Conditions Recommendations.

No other mitigations are necessary.

TABLE 9
PEAK HOUR INTERSECTION LEVELS OF SERVICE
WITH RECOMMENDATIONS AND MITIGATIONS

Locations	Existing		Existing + Project		2017		2017 + Project	
	AM	PM	AM	PM	AM	PM	AM	PM
1. Green Valley Road / Sophia Parkway	B / 15.6	B / 15.8	B / 18.1	C / 24.5	C / 28.2	C / 21.3	D / 40.3	C / 24.4
2. Green Valley Road / Mormon Island Drive	A / 6.4	A / 5.1	A / 6.5	A / 8.5	A / 6.2	A / 9.0	A / 6.1	A / 3.8
3. Green Valley Road / Hidden Acres Road	A / 3.0	A / 4.5	A / 5.7	A / 5.8	A / 4.5	A / 3.2	A / 6.2	A / 2.3
4. Green Valley Road / Francisco Drive	C / 34.3	D / 48.1	D / 44.7	D / 48.3	D / 42.1	D / 42.6	D / 36.6	D / 48.9
5. Green Valley Rd / El Dorado Hills Blvd – Salmon Falls Rd	E / 74.1	E / 65.1	E / 69.7	E / 72.7	E / 76.4	E / 73.3	E / 70.4	E / 77.0
6. El Dorado Hills Blvd / Francisco Drive	F / 107.6 **D / 39.4***	F / 59.7 **C / 21.4‡**	F / 116.2 **D / 42.6‡**	F / 67.7 **C / 23.1‡**	F / 134.5 **C / 29.8†**	F / 82.1 **C / 21.6‡**	F / 143.6 **C / 26.9‡**	F / 90.4 **B / 12.1‡**
7. Sophia Parkway / Elmores Way	A / 8.0	A / 8.9	A / 8.2	A / 9.1	A / 8.5	A / 9.6	A / 8.7	A / 9.9
12. Green Valley Rd / SE Quadrant Access	N/A	N/A	A / 9.4	B / 10.8	N/A	N/A	A / 9.2	B / 11.3
9. Sophia Parkway / SW Quadrant Access	N/A	N/A	A / 9.7	B / 10.2	N/A	N/A	A / 9.4	A / 9.8

Bold denotes mitigated LOS
* signalize intersection
† add eastbound right turn overlap to signal
‡ previous mitigation

KDA

REFERENCES

1. Transportation Research Board, Special Report 209, *Highway Capacity Manual*, 2000
2. Caltrans *Highway Design Manual*, 2012
3. El Dorado County Department of Transportation, *2012 West Slope Road / Bridge Capital Improvement Program*, http://www.edcgov.us/Government/DOT/CIP.aspx
4. California *Manual of Uniform Traffic Control Devices*, 2012
5. Institute of Transportation Engineers. 2008. *Trip Generation*, 8th Edition. Washington, D.C.
6. Transportation Research Board. 1982. National Cooperative Highway Research Program (NCHRP) Report 255, *Highway Traffic Data for Urbanized Area Project Planning and Design*. Washington, D.C.
7. Telephone and E-mail correspondence, Chirag Safi, Kittelson & Associates, Inc., October, November, 2012
8. *Wilson Estates Final Traffic Impact Analysis (WO#38)*, by Kimley-Horn and Associates, Inc., March 3, 2011
9. *Green Valley Center Final Traffic Impact Analysis (WO#39)*, by Kimley-Horn and Associates, Inc., March 3, 2011
10. *Dixon Ranch Final Traffic Impact Analysis (WO#41)*, by Kimley-Horn and Associates, Inc., May 9, 2012
11. *Queue Length Models for All-Way Stop Controlled Intersections*, Tian, Zong, University of Nevada Reno and Michael Kyte University of Idaho, August, 2005.
12. Institute of Transportation Engineers. 2004. *Trip Generation Handbook*, 2nd Edition. Washington, D.C.

KDA

APPENDICES

APPENDIX A
TRAFFIC COUNT DATA

Location – Count Date

Green Valley Rd / Hidden Acres Dr -- October 29, 2012
Green Valley Rd / Sophia Parkway -- October 29, 2012
Green Valley Rd / Mormon Island Dr -- October 29, 2012
Green Valley Rd / Francisco Dr – October / November, 2011
Sophia Parkway / Elmores Way -- October 29, 2012
El Dorado Blvd / Francisco Dr – November, 2010
Green Valley Rd / El Dorado Hills Blvd – Salmon Falls Rd – October / November, 2011

APPENDIX B
EPAP (2017) VS MODEL INTERPOLATION

#1 Green Valley Road / Sophia Parkway

2017 AM Model Traffic – Sum of Inbound Traffic = 2,447
2017 AM APP Traffic – Sum of Inbound Traffic = 2,466 ← (APP used)

2017 PM Model Traffic – Sum of Inbound Traffic = 2,993
2017 PM APP Traffic – Sum of Inbound Traffic = 3,026 ← (APP used)

#2 Green Valley Road / Mormon Island Road

2017 AM Model Traffic – Sum of Inbound Traffic = 2,263
2017 AM APP Traffic – Sum of Inbound Traffic = 2,297 ← (APP used)

2017 PM Model Traffic – Sum of Inbound Traffic = 2,757
2017 PM APP Traffic – Sum of Inbound Traffic = 2,812 ← (APP used)

#3 Green Valley Road / Hidden Acres Drive

2017 AM Model Traffic – Sum of Inbound Traffic = 2,259
2017 AM APP Traffic – Sum of Inbound Traffic = 2,293 ← (APP used)

2017 PM Model Traffic – Sum of Inbound Traffic = 2,708
2017 PM APP Traffic – Sum of Inbound Traffic = 2,759 ← (APP used)

#4 Green Valley Road / Francisco Road

2017 AM Model Traffic – Sum of Inbound Traffic = 2,951
2017 AM APP Traffic – Sum of Inbound APP Traffic = 3,014 ← (APP used)

2017 PM Model Traffic – Sum of Inbound Traffic = 3,654
2017 PM APP Traffic – Sum of Inbound APP Traffic = 3,669 ← (APP used)

#5 Green Valley Road / El Dorado Hills Blvd – Salmon Falls Rd

2017 AM Model Traffic – Sum of Inbound Traffic = 2,122 ← (model used)
2017 AM APP Traffic – Sum of Inbound APP Traffic = 2,104

2017 PM Model Traffic – Sum of Inbound Traffic = 2,349
2017 PM APP Traffic – Sum of Inbound APP Traffic = 2,458 ← (APP used)

#6 El Dorado Hills Blvd / Francisco Drive

2017 AM Model Traffic – Sum of Inbound Traffic = 1,807
2017 AM APP Traffic – Sum of Inbound Traffic = 2,023 ← (APP used)

2011 PM Model Traffic – Sum of Inbound Traffic = 1,553
2011 PM APP Traffic – Sum of Inbound Traffic = 1,739 ← (APP used)

#7 Sophia Parkway / Elmores Way

2017 AM Model Traffic – Sum of Inbound Traffic = 499
2017 AM APP Traffic – Sum of Inbound Traffic = 544 ← (APP used)

2017 PM Model Traffic – Sum of Inbound Traffic = 611
2017 PM APP Traffic – Sum of Inbound Traffic = 673 ← (APP used)

3853 Taylor Road, Suite G
Loomis, CA 95650
916.660.1555 Phone
916.660.1535 Fax

KD Anderson & Associates, Inc.
Transportation Engineers

MEMO

To: Eileen Crawford, El Dorado County DOT
Steve Kooyman, El Dorado County DOT
Bob Slater, El Dorado County DOT

From: Jonathan Flecker

Date: January 16, 2013

Re: ARCO AM PM Left Turn Analysis – Addendum to November 30, 2012 Traffic Impact Study

---

The following is an addendum to the November 30, 2012 traffic impact study (TIS) for the Arco AM / PM site in the southeast corner of Green Valley Road and Sophia Parkway. The County initially indicated that a raised median would be installed as part of this project and that westbound access would occur via a U-turn, provided one could be made. An AutoTurn analysis was conducted and included in the traffic study showing that passenger cars could make the U-turn, but larger vehicles could not. Subsequently, after submittal of the report to El Dorado County, the County indicated that U-turns would not be allowed for westbound traffic.

Access to the site from westbound Green Valley Road is vital to the project's feasibility; therefore other access alternatives were pursued. A conference call was held between County staff (Bob Slater and Eileen Crawford) and Eric Ramsing of Barghausen Consulting Engineers and Jonathan Flecker of KDA on December 20, 2012. An alternative was discussed that provides westbound left turn inbound access at the far east of the site. A left turn access would be created that would be physically separated from the Sophia Parkway left turn lane via a raised median. County staff indicated that further analysis is required for this location.

The original TIS evaluated short term future traffic through 2017, and for this alternative the County asked that the analysis extend through 2025, the lifespan of the current County traffic model. Besides level of service at the Green Valley Road / Sophia Parkway intersection, the County asked that two topics be examined: 1) queuing of westbound left turn traffic at the Green Valley Road / Sophia Parkway intersection and 2) sight distance from the proposed left turn lane at the east end of the site.

Due to the limited distance between the driveway and the intersection SimTraffic software was used to determine queuing characteristics along Green Valley Road. SimTraffic is a micro-simulation program that is part of the Synchro suite of products and is more sensitive to closely spaced intersections. A minimum of five SimTraffic runs was completed for the 2025 plus Project A.M. and P.M. scenarios.

Access Design

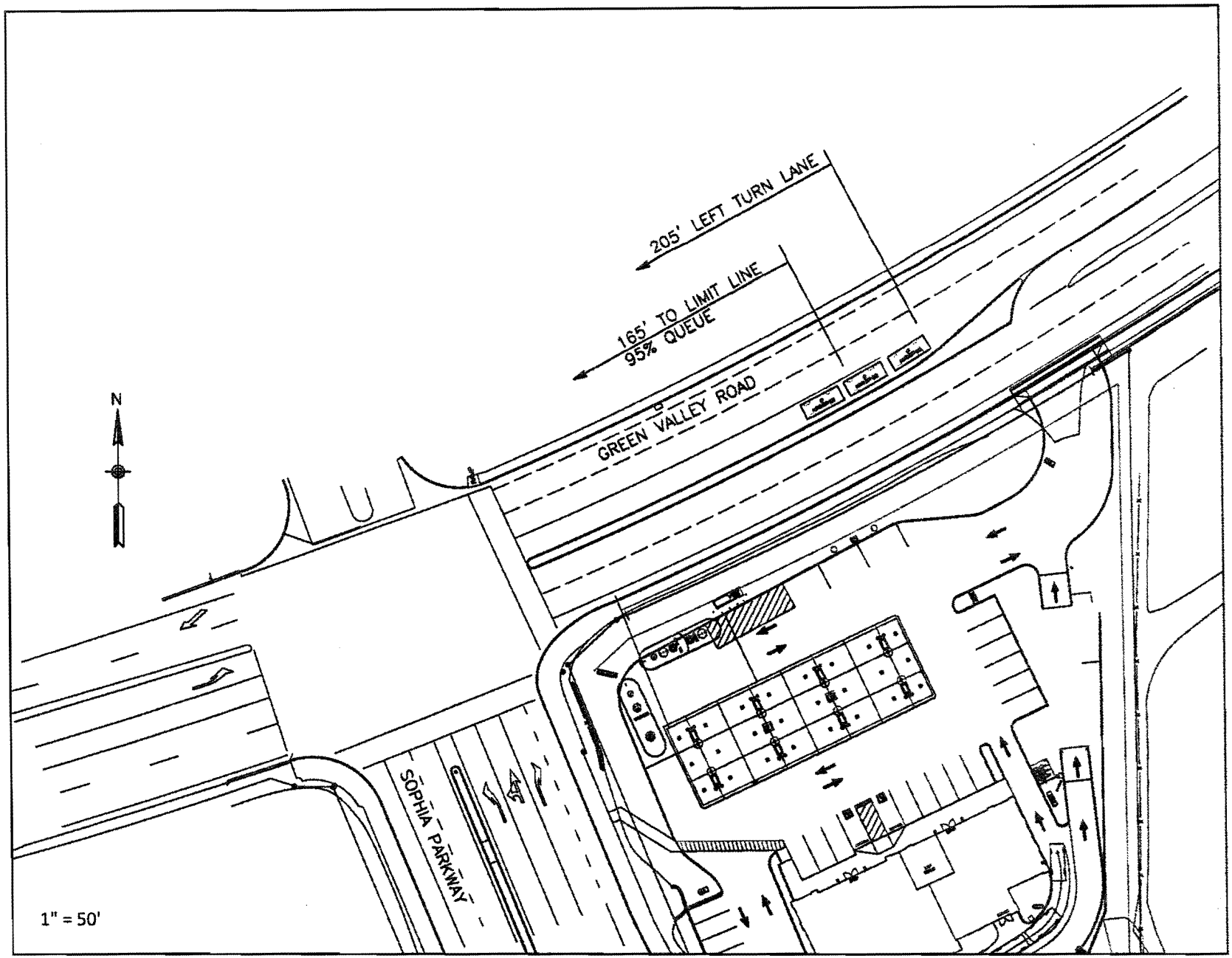
The alternative being analyzed will relocate the project's driveway along Green Valley Road to the far east side of the site. The driveway will allow right-in, right-out and left-in turning movements; the left-in movement will accommodate an SU-40 truck. A conceptual plan of the alignment is illustrated in Figure 1. A raised median would be provided along Green Valley Road separating left turning traffic into the project site from those motorists making left turns onto Sophia Parkway. The proposed left turn lane for Sophia Parkway traffic would be about 205 feet long with a 90' left turn taper. The left turn lane into the project site would be a transition from the existing continuous two-way left turn lane (TWLTL) on Green Valley Road. U-turns would continue to be prohibited for westbound traffic at the Green Valley Road / Sophia Parkway intersection. The raised median would extend to the intersection and would separate eastbound and westbound traffic as well as both left turn lanes.

2025 Traffic Volumes

A.M. and P.M. peak hour volume data for the year 2025 was provided from the County traffic model data. Peak hour intersection turning movements were developed using the Furness forecasting methodology. The model distributes most traffic growth between Sophia Parkway and Green Valley Road to the east, and consequently, the westbound to southbound and northbound to eastbound turning movements showed the largest growth. Figure 2 presents the projected traffic volumes at the Green Valley Road / Sophia Parkway intersection and the project driveways under the 2025 No Project conditions. Figure 2 also presents the project traffic volumes entering and exiting the site and the Cumulative plus Project traffic volumes.

2025 Lane Configurations

Green Valley Road would remain in its current lane configurations with one change that occurs west of Sophia Parkway. Currently, the roadway narrows to a two-lane facility about 230' west of the intersection. According to the County General Plan Green Valley Road will be widened to a four lane divided road by 2025, and this widening was assumed as part of the analysis.



PROPOSED INBOUND LEFT TURN LANE WITH RAISED MEDIAN

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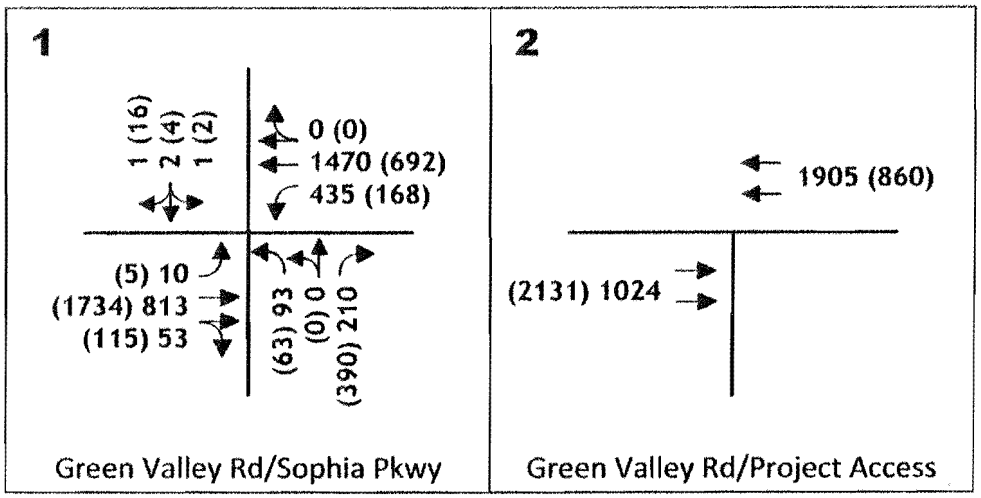
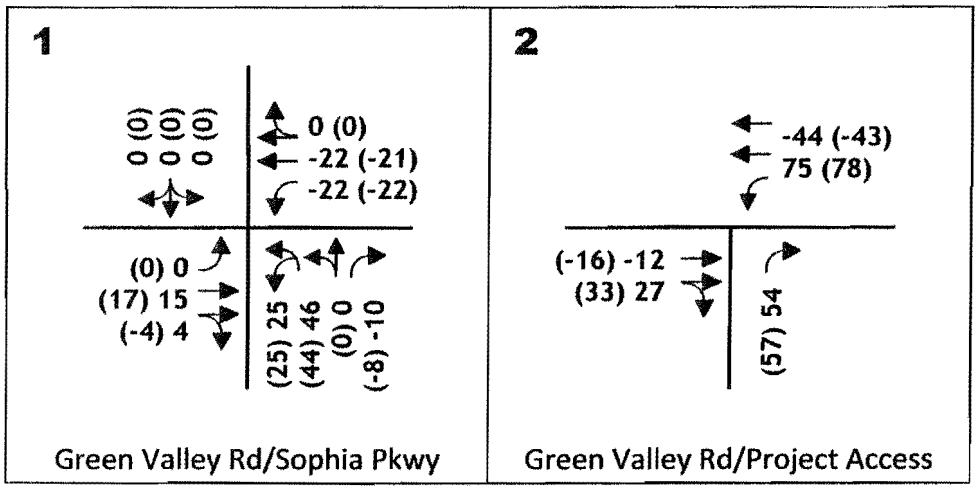
1260-001 LT 1/16/2013

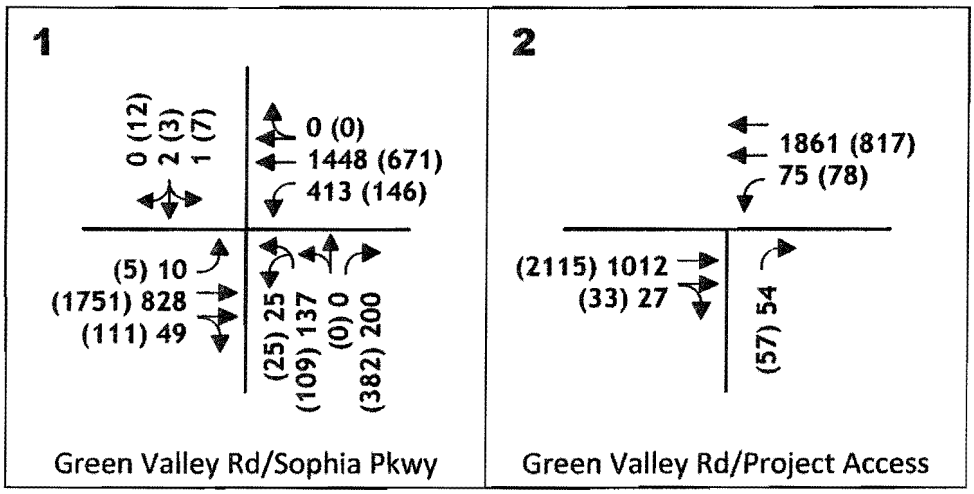
figure 1
STAFF MEMO 08-07-13
13-1347 G 275 of 333



2025 VOLUMES - NO PROJECT



PROJECT TRAFFIC



2025 PLUS PROJECT TRAFFIC

2025 plus Project Intersection Levels of Service

Table 1 displays the a.m. and p.m. peak hour Levels of Service at each study intersection in the Cumulative Plus Project condition. Each of the intersections will operate within County minimum LOS standards. The Green Valley Road / Sophia Parkway intersection will operate at LOS B in both a.m. and p.m. peak hours with delays of 12.6 seconds and 18.4 seconds, respectively. The Green Valley Road / Project Access Driveway will operate with the northbound right turn exiting the site operating at LOS A in the a.m. peak hour (6.1 seconds) and LOS C in the p.m. peak hour (24.6 seconds). The left turn movement into the site will operate at LOS A in the a.m. peak hour (9.9 seconds) and LOS D in the p.m. peak hour (34.6 seconds).

TABLE 1
AM / PM PEAK HOUR INTERSECTION LEVELS OF SERVICE
2025 PLUS PROJECT CONDITIONS

Location	Control	2025 AM Peak Hour Plus Project		2025 PM Peak Hour Plus Project	
		LOS	Average Delay (sec)	LOS	Average Delay (sec)
1. Green Valley Rd / Sophia Parkway	Signal	B	12.6	B	18.4
2. Green Valley Rd / Gas Station Access					
NB Right Turn	NB Stop	A	6.1	C	24.6
WB Left Turn		A	9.9	D	34.1

2025 plus Project Intersection Queuing

As part of the SimTraffic simulation a Queuing and Blocking Report was completed to determine the impact of installing a left turn pocket for the site just prior to the left turn lane onto Sophia Parkway. The maximum length of the left turn lane for Sophia Parkway while being able to provide a separated left turn lane into the project site is 205 feet. Table 2 presents the queuing information for both peak periods. The projected 95th percentile queues for left turns onto Sophia Parkway are projected to be worst in the a.m. peak hour when a queue of 165' will occur. The p.m. 95th percentile queue is projected to be 129'. The projected queues are within the available storage length.

The queues in the left turn lane providing access to the project site are projected to be 50' in the a.m. peak hour and 88' in the p.m. peak hour. The projected queues for the westbound left turn lane will not extend east to Amy's Lane; therefore, adequate storage will be available for this movement.

TABLE 2
AM / PM PEAK HOUR 95TH PERCENTILE QUEUES
2025 PLUS PROJECT CONDITIONS

Location	2025 Peak Hour Plus Project	
	AM	PM
1. Green Valley Rd / Sophia Parkway WB Left Turn	165'	129'
2. Green Valley Rd / Gas Station Access WB Left Turn	50'	88'

Sight Distance

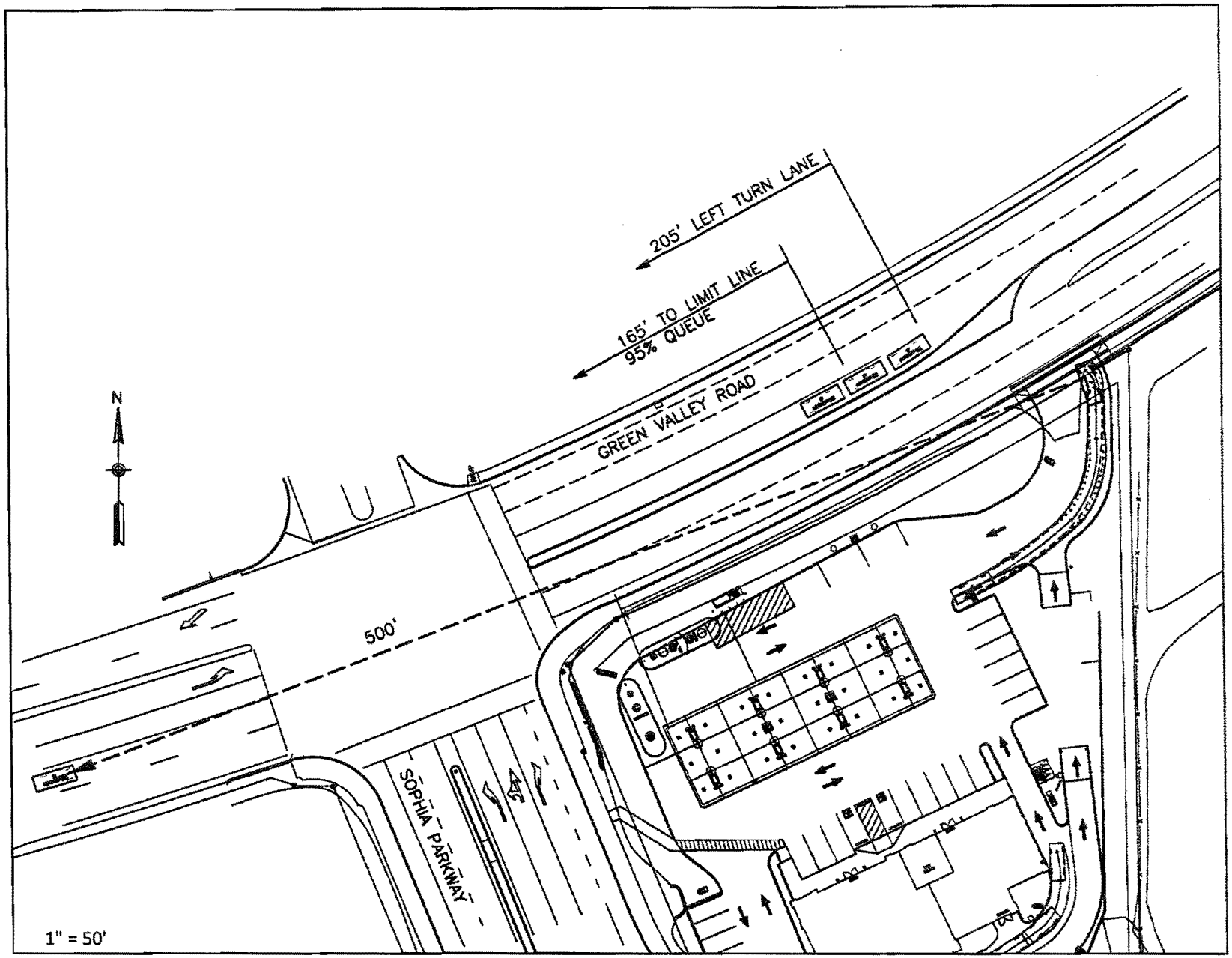
El Dorado County staff also requested an analysis of sight distance for vehicles at the Green Valley Road / Project Driveway and two sight lines were analyzed. The available sight distance for vehicles departing the site and the sight line for vehicles entering the site from the left turn lane were both determined.

The County standard for vehicles exiting a commercial driveway is equivalent to ten times the posted speed. For this segment of Green Valley Road with a 50 mph speed limit a 500' distance is required.

The County does not have a minimum standard for sight distance for left turns made from the major road. Instead, the Caltrans stopping sight distance standards (Chapter 2 of the Highway Design Manual) were used as the basis for determining adequate sight distance. Table 201.1 of the Highway Design Manual (HDM) identifies a 430' minimum stopping sight distance for a 50 mph speed.

Figure 3 presents the sight distance for vehicles exiting the project site. As shown, the County standard is met and exceeded for vehicles exiting the site via a right turn onto eastbound Green Valley Road.

A horizontal curve is present on Green Valley Road along the project frontage, and sight distance will be limited by vehicles waiting in the left turn lane for Sophia Parkway. If the left turn lane for Sophia Parkway fills, the limiting obstruction for a motorist in the Project Access driveway is a vehicle about 165' from the Green Valley Road / Sophia Parkway intersection. The minimum sight distance for left turning inbound vehicles requires 430', and this sight distance is met as shown in Figure 4.



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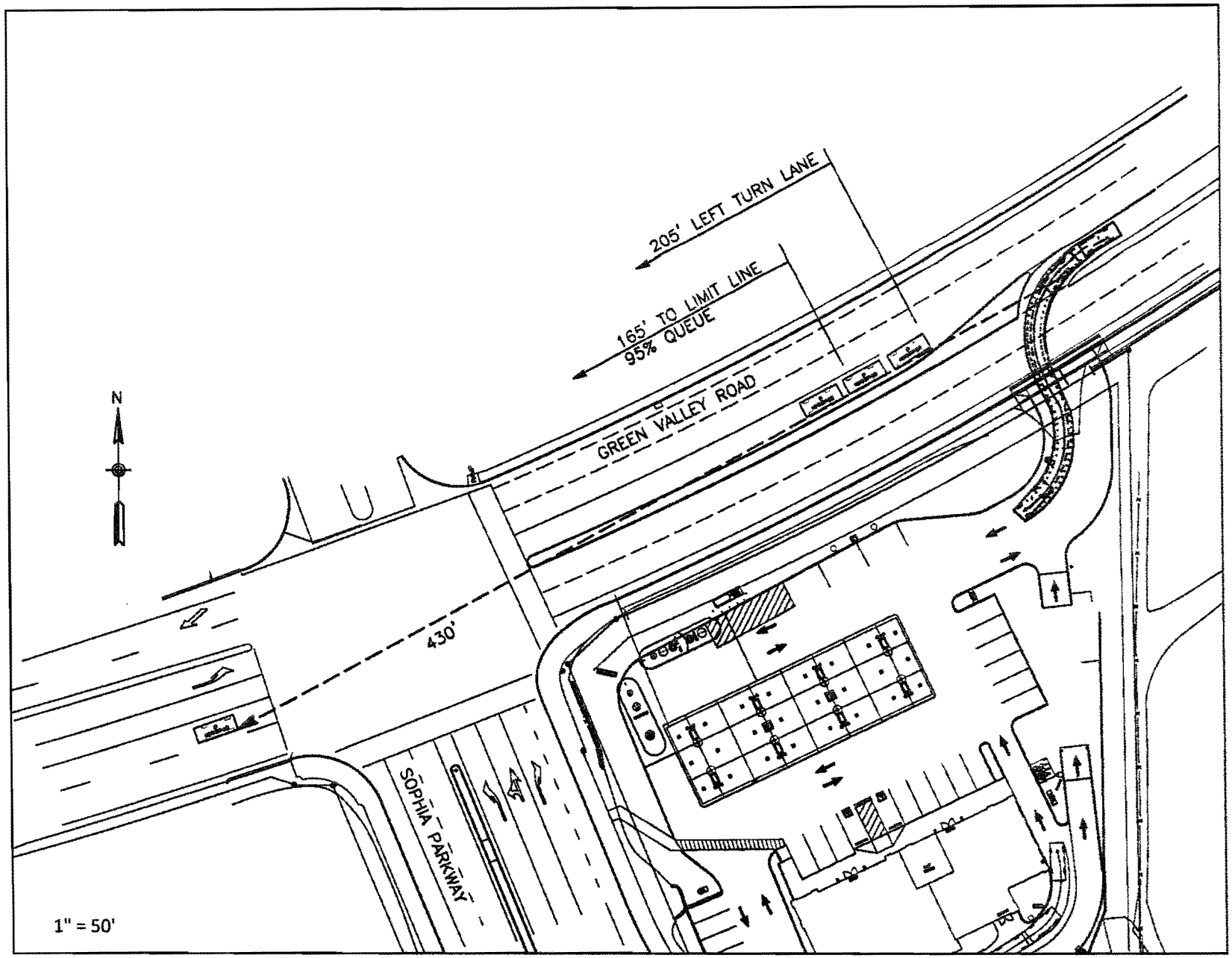
CORNER SIGHT DISTANCE – COMMERCIAL DRIVEWAY

1260-001 LT 1/16/2013

figure 3
STAFF MEMO 08-07-13
13-1347 G 279 of 333



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LEFT TURN ALONG MAJOR ROAD - SIGHT DISTANCE

1260-001 LT 1/16/2013

figure 4
STAFF MEMO 08-07-13
13-1347 G 280 of 333

Summary

An analysis was conducted for the project access alternative that involved the addition of a left turn lane at the far east side of the proposed ARCO AM/PM site along Green Valley Road.

The westbound left turn lane will be separated from the adjoining left turn lane at the Green Valley Road / Sophia Parkway intersection by a raised median.

The proposed location will provide about 205' of storage for traffic turning left at Sophia Parkway. A SimTraffic analysis showed that the worst case 95th percentile queue will be 165' in the a.m. peak hour which is the "worst case" time period. Thus, the alternative is feasible based on queue storage.

A sight distance evaluation was also completed for both right turning traffic exiting the project site and westbound inbound left turning vehicles from Green Valley Road. The sight distance evaluation indicated that there is adequate sight distance for both movements with a minimum 430' required for westbound left turns and 500' for northbound right turns. Thus, the project alternative is feasible based on sight distance.

PRELIMINARY DRAINAGE REPORT

ARCO Gas Station and AM/PM Convenience Store

Green Valley Road and Sophia Parkway
El Dorado Hills, California

Prepared for:
Marc Strauch
The Strauch Companies
301 Natoma Street, Suite 202
Folsom, CA 95630

December 6, 2012
(updated January 31, 2013)
Our Job No. 15593

ATTACHMENT 17

BARGHAUSEN CONSULTING ENGINEERS, INC.
CIVIL ENGINEERING, LAND PLANNING, SURVEYING
18215 72ND AVENUE SOUTH KENT, WA 98032 (425) 251-6222 (425) 251-8782 FAX
BRANCH OFFICES ◆ OLYMPIA, WA ◆ TACOMA, WA ◆ CONCORD, CA ◆ TEMECULA, CA
www.barghausen.com

TABLE OF CONTENTS

APPENDIX

1.0 PROJECT DESCRIPTION

1.0 PROJECT DESCRIPTION

This project is proposing to construct a gasoline station, car wash, AM/PM convenience store, and Quick Service Restaurant along with parking lot, landscaping, and utility improvements on a 2.11-acre site located at the southeast corner of Green Valley Road and Sophia Parkway, in El Dorado County, California. The proposed project is Parcel 2 filed in Parcel Map 50 page 82 of El Dorado County Records. Refer to the Vicinity Map within the Appendix for a depiction of the project site.

The site is triangular in shape with an approximate width of 200 feet and length of 600 feet. The area of the proposed construction is currently an empty lot with frontage improvements along Green Valley Road to the north and along Sophia Parkway to the west. A 15-foot-wide utility easement runs along the east boundary. There is a seasonal stream/drainage course that bisects the parcel and flows in the east to west direction.

The site drains to the existing drainage course that bisect the parcel and flows in the east to west direction. The drainage course continues westward under Sophia Parkway through a culvert system consisting of three 48-inch-diameter reinforced concrete pipes and headwall.

The site currently contains an existing asphalt drive apron and dirt road at the northeast corner of the site but is otherwise vacant.

The site soils consist of silty sandy fill over sandy silt material over a 2-foot layer of sandy clay over weathered metavolcanic bedrock. There is an existing drainage course and wetland that bisect the property.

The project will consist of a new 2,773-square-foot AM/PM Convenience Store, a new 2,183-square-foot Quick Service Restaurant, 4,602-square-foot fueling canopy, and 1,195-square-foot car wash. The fueling facility consists of eight (8) fueling islands, with a total of 8 multi-product dispensers (MPDs) providing 16 fueling positions. The project also includes the installation of two (2) underground gasoline storage tanks, including 20,000-gallon and 22,000-gallon tanks.

The project proposes to develop approximately 1.3 acres of the site and will leave the 0.8-acre balance undisturbed. The developed site will add approximately 0.95 acre of impervious surfaces and add approximately 0.39 acre of landscaping. Stormwater runoff from the new impervious surfaces will be collected in a series of at-grade concrete swales, catch basins, pipe conveyance system (including District approved water quality BMPs), and then discharged into the existing seasonal stream/drainage course that bisects the site.

2.0 STORMWATER POLLUTION CONTROL MEASURES

2.0 STORM WATER POLLUTION CONTROL MEASURES

This project will be required to meet the Central Valley Regional Water Quality Control Board standards for handling construction storm water. The project will prepare a Storm Water Pollution Prevention Plan and will submit and register this project with the California Water Board electronic system. The project will obtain a WDID number and will provide the appropriate monitoring and reporting measures to comply with this requirement. The following measures will be taken during the design and construction of this project.

General Site Design Control Measures

Site design control measures are intended to reduce the stormwater runoff peak flows and volumes. The project utilizes site design control measures by including approximately 20 percent of the site area as landscape.

Site Design Control Measure D-3: Minimize Impervious Areas – The site's impervious area has been minimized to the maximum extent practicable.

Site Specific Source Control Measures

Site-specific source control measures are intended to prevent pollutants from contacting stormwater and prevent the discharge of contaminated runoff to the storm drainage system.

Site Source Control Measure S-1: Storm Drain Stenciling and Signage – Storm drain message markers will be placed at all storm drain inlets within the boundary of the project.

Site Source Control Measure S-3: Outdoor Trash Area Design – The proposed outdoor trash area will be constructed with material base that is impervious to spills, provided with a roof to prevent contact with stormwater, and will be hydraulically isolated to drain directly into the sanitary sewer system.

Site Source Control Measure S-5: Outdoor Vehicle Wash Area Design – The car wash has been designed with floor materials consisting of concrete to prevent infiltration of polluted wash water, a permanent roof, and an independent and isolated drainage system that will discharge to the sanitary sewer.

Site Source Control Measure S-6: Fuel Dispensing Area Design – The fueling island will consist of a concrete slab and canopy with a hydraulically isolated drainage system. The drainage system is a concrete swale directing any fuel spill or stormwater runoff to a perimeter trench drain that discharges into an oil/water separator with emergency shut off valve, then drains to the sanitary sewer system.

Treatment Control Measures

The site's treatment control measures will prevent and minimize water quality impacts from stormwater.

Site Treatment Control Measure T-10: Media Filter - The project will propose a StormFilter water quality treatment facility that is appropriately sized per the El Dorado County standards.

3.0 MAINTENANCE PLAN AND RESPONSIBILITY

3.0 MAINTENANCE PLAN

The site owner and business operator shall maintain responsibility for the operation and maintenance of the onsite source control measures. Please refer to the design plans within the Appendix for a depiction of the sites source controls and the maintenance sheets for maintenance specifications.

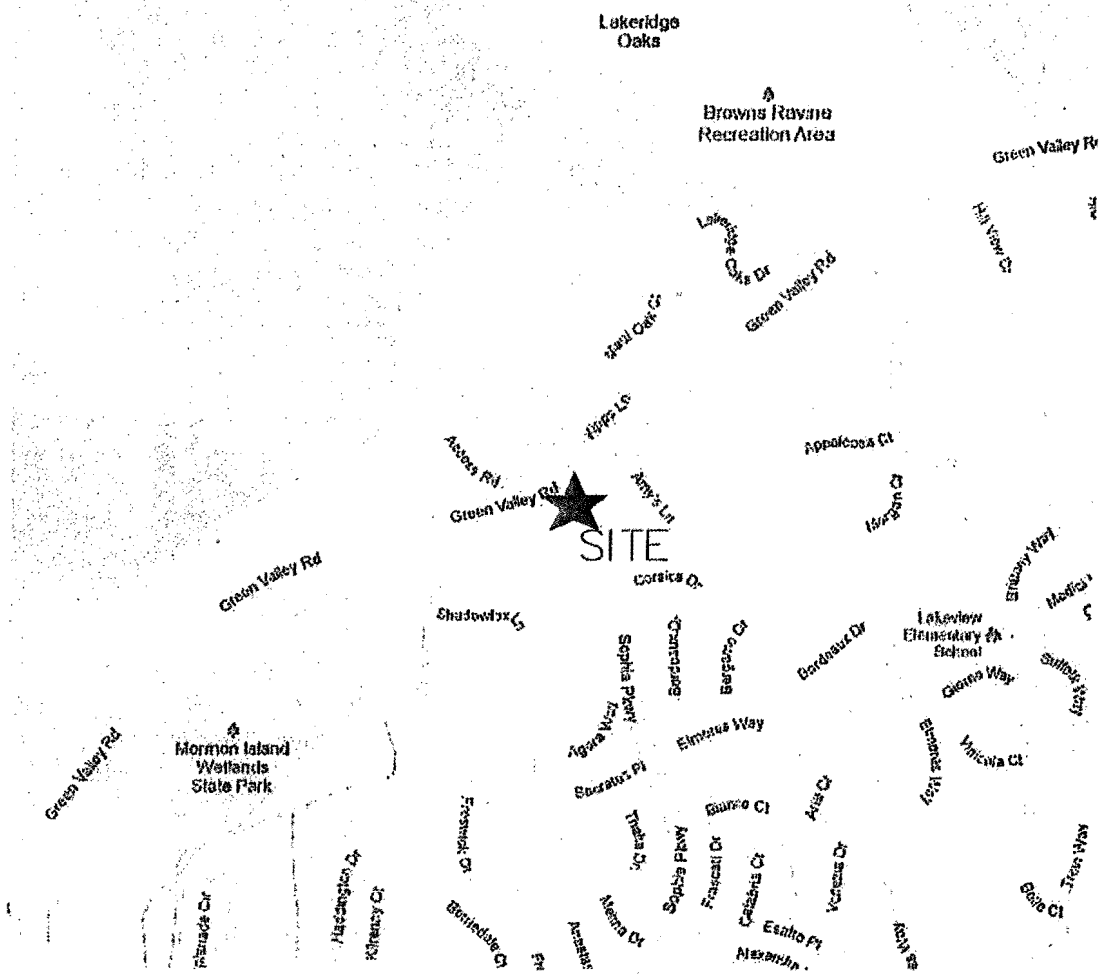
Name of Owner:	Marc Strauch – The Strauch Companies
Address of Owner:	301 Natoma St., Suite 202 Folsom, CA 95630
Phone number of Owner:	(916) 257-6497

APPENDIX

EXHIBIT A

VICINITY MAP

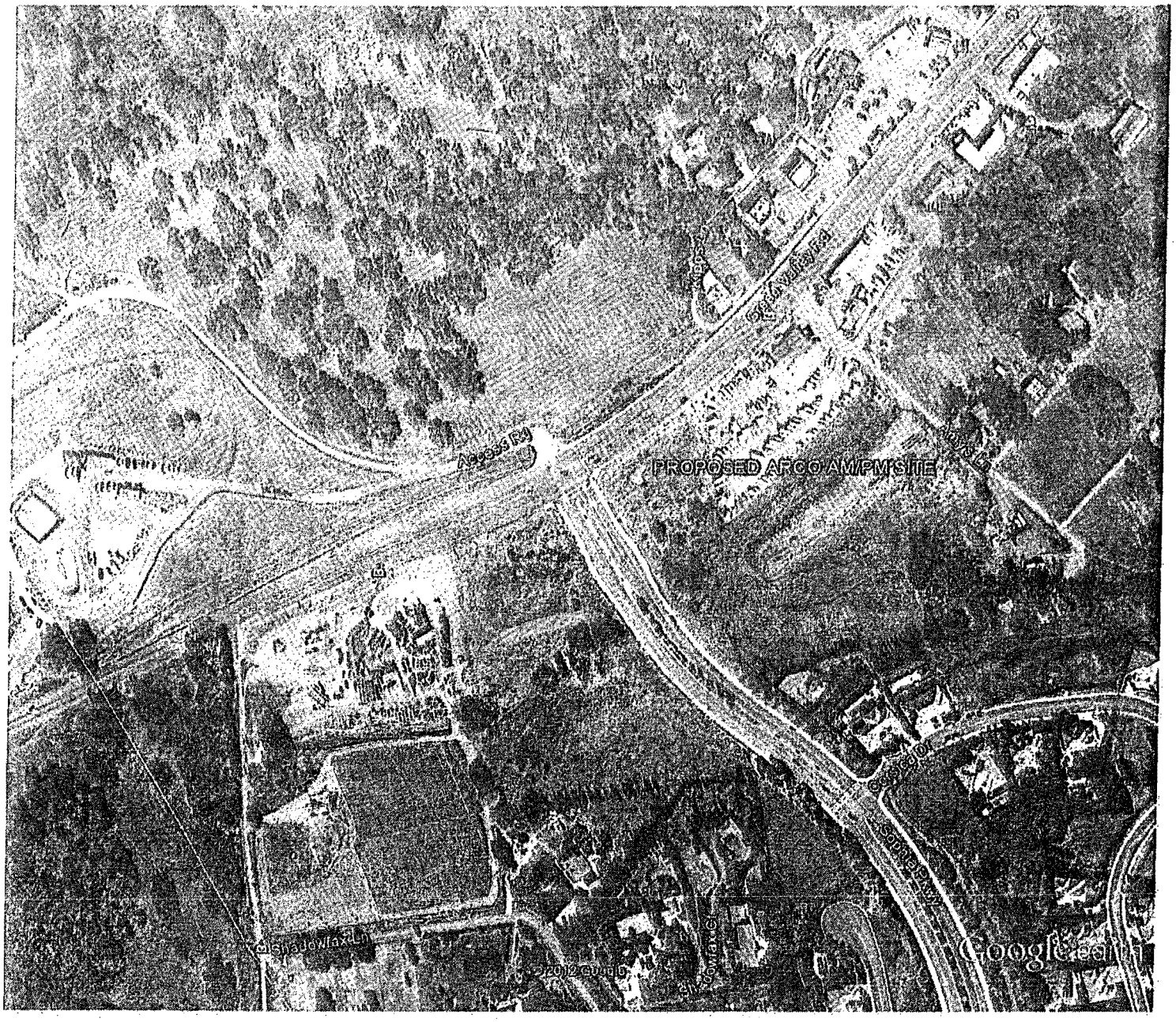
NTS



VICINITY MAP

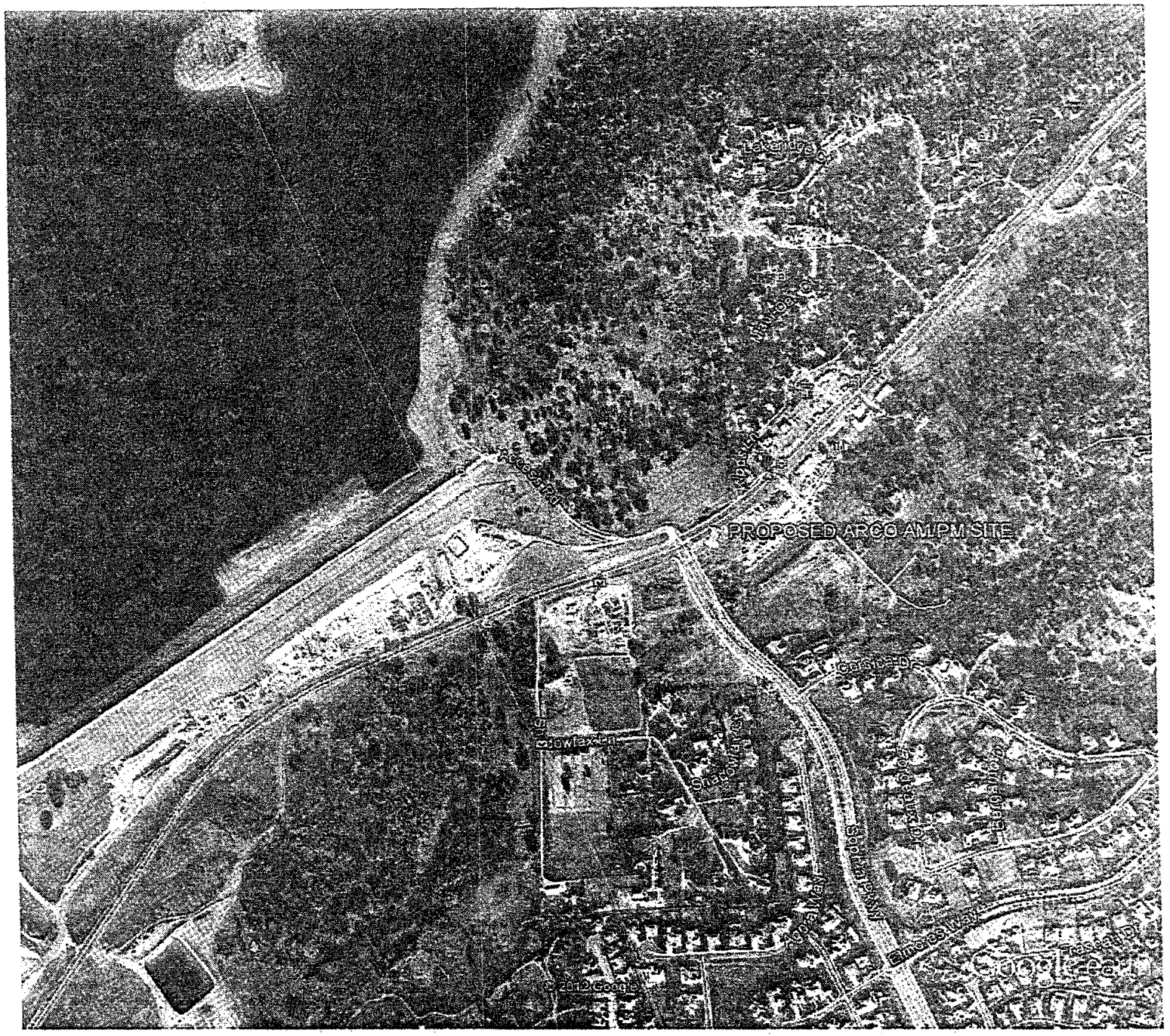
ARCO AM/PM C-STORE
GREEN VALLEY RD. &
SOPHIA PARKWAY
EL DORADO HILLS, CA

Job Number 15593	Designed ____ Drawn ____ Checked ____ Approved ____ Date 11/28/12	Scale: Horizontal NTS Vertical NTS	For: THE STRAUCH COMPANIES EL DORADO HILLS, CA
Sheet 1 of 1		BARGHAUSEN CONSULTING ENGINEERS, INC. 18215 72ND AVENUE SOUTH KENT, WA 98032 (425)251-6222 (425)251-8782 FAX CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES	Title: VICINITY MAP ARCO AM/PM



Google earth

feet 1000
meters 300


PROPOSED ARCO AM/PM SITE
Google earth
feet
km
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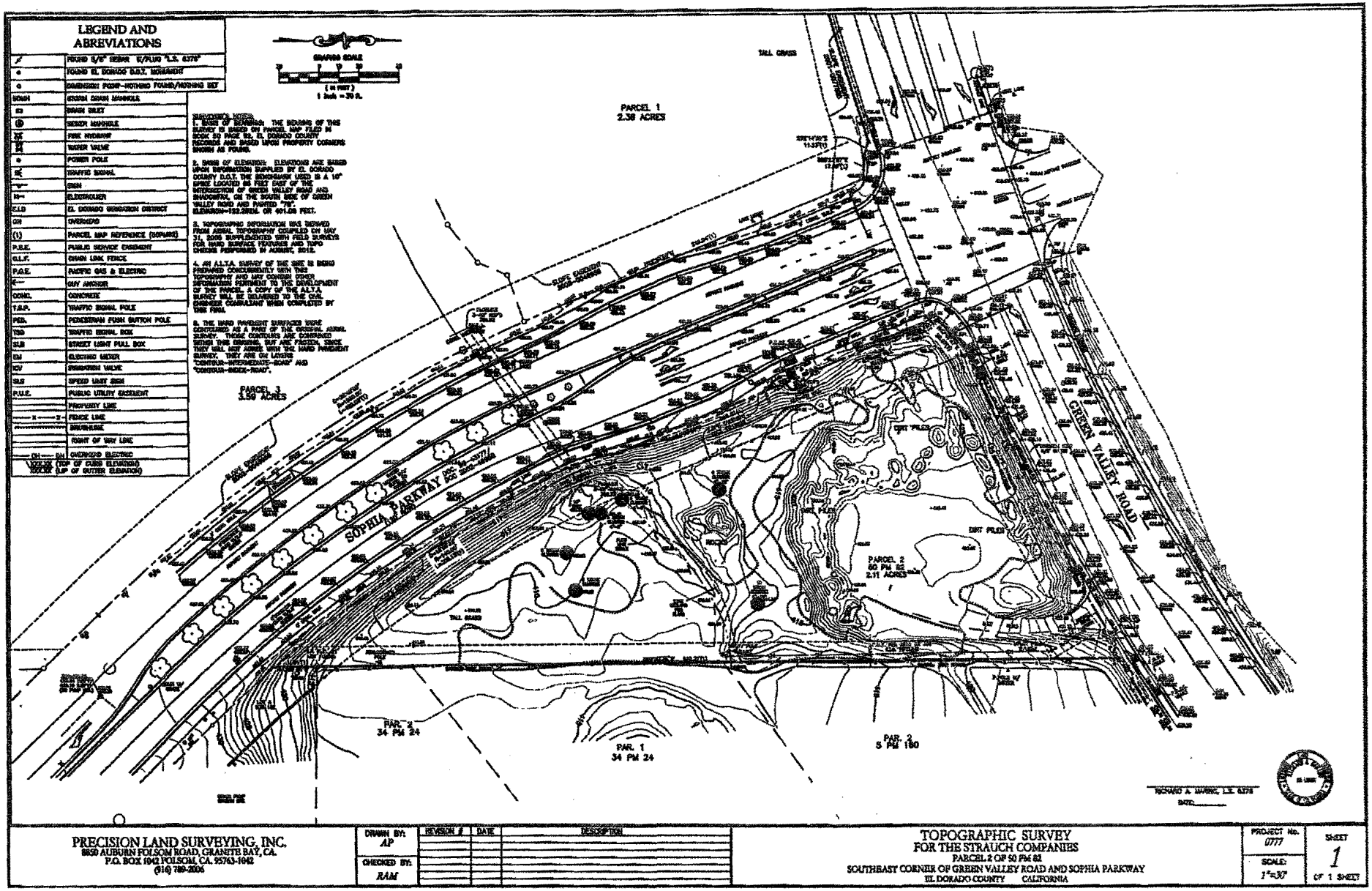


	FOUND 5/8" REBAR W/PLUG "L.S. 6378"
●	FOUND EL DORADO D.O.T. MONUMENT
○	DIMENSION POINT-NOTHING FOUND/NOTHING SET
SDMH	STORM DRAIN MANHOLE
DI	DRAIN INLET
SMH	SEWER MANHOLE
FH	FIRE HYDRANT
WV	WATER VALVE
●	POWER POLE
TS	TRAFFIC SIGNAL
	SIGN
ELV	ELECTROLIER
E.I.D	EL DORADO IRRIGATION DISTRICT
OH	OVERHEAD
(1)	PARCEL MAP REFERENCE (SOPHIA)
P.S.E.	PUBLIC SERVICE EASEMENT
C.L.F.	CHAIN LINK FENCE
P.G.E.	PACIFIC GAS & ELECTRIC
	GUY ANCHOR
CONC.	CONCRETE
T.S.P.	TRAFFIC SIGNAL POLE
PED.	PEDESTRIAN PUSH BUTTON POLE
TSB	TRAFFIC SIGNAL BOX
SLB	STREET LIGHT PULL BOX
EM	ELECTRIC METER
IGV	IRRIGATION VALVE
SLS	SPEED LIMIT SIGN
P.U.E.	PUBLIC UTILITY EASEMENT
	PROPERTY LINE
x x	FENCE LINE
	EASEMENT
	RIGHT OF WAY LINE
OH OH	OVERHEAD ELECTRIC
100.00	(TOP OF CURB ELEVATION)
100.00	(LIP OF GUTTER ELEVATION)

PRECISION LAND SURVEYING, INC.
8650 AUBURN FOLSOM ROAD, GRANITE BAY, CA.
P.O. BOX 1042 FOLSOM, CA. 95763-1042
(916) 780-2006

DRAWN BY: AP
CHECKED BY: RAM

REVISION #	DATE	DESCRIPTION

TOPOGRAPHIC SURVEY
FOR THE STRAUCH COMPANIES
PARCEL 2 OF 50 PM 82
SOUTHEAST CORNER OF GREEN VALLEY ROAD AND SOPHIA PARKWAY
EL DORADO COUNTY CALIFORNIA

PROJECT No. 0777
SCALE: 1"=30'
SHEET 1 OF 1 SHEET

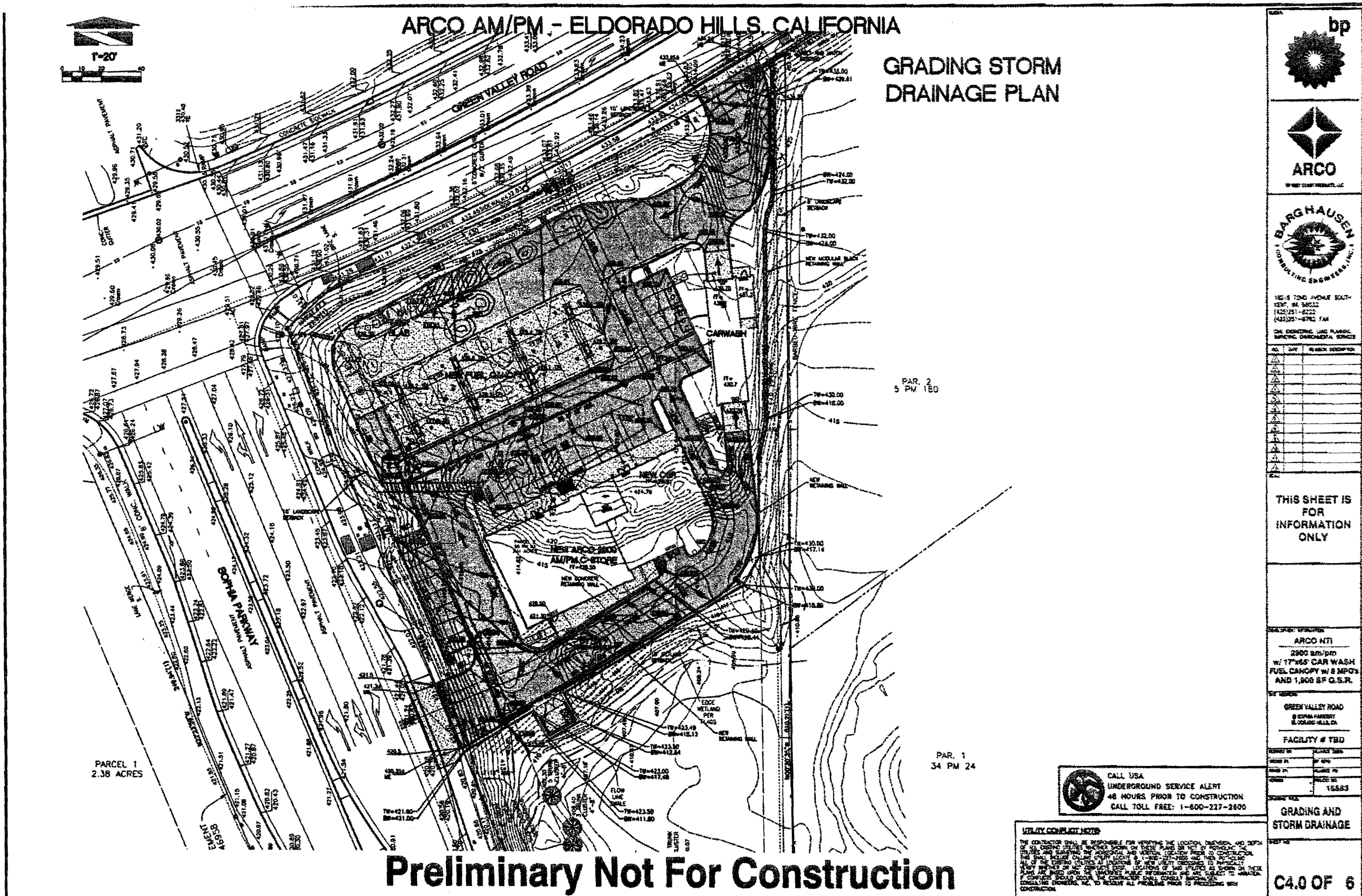
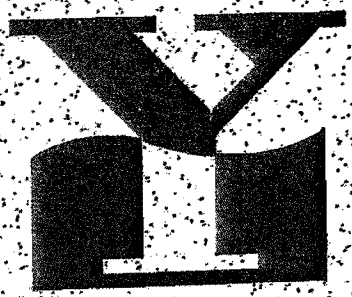

ARCO AM/PM - ELDORADO HILLS, CALIFORNIA
1"=20'
GRADING STORM
DRAINAGE PLAN
GREEN VALLEY ROAD
SOPHIA PARKWAY
CARWASH
NEW ARCO 2900
AM/PM C-STORE
PAR. 2
5 PM 180
PAR. 1
34 PM 24
PARCEL 1
2.38 ACRES
CALL USA
UNDERGROUND SERVICE ALERT
48 HOURS PRIOR TO CONSTRUCTION
CALL TOLL FREE: 1-800-227-2600
UTILITY CONFLICT NOTE
bp
ARCO
BARGHAUSEN
CONSULTING ENGINEERS, INC.
THIS SHEET IS
FOR
INFORMATION
ONLY
ARCO NTI
2900 am/pm
w/ 17'x65' CAR WASH
FUEL CANOPY w/ 8 MPD's
AND 1,900 SF O.S.R.
GREEN VALLEY ROAD
FACILITY # TBD
15583
GRADING AND
STORM DRAINAGE
C4.0 OF 6
Preliminary Not For Construction

EXHIBIT F

GEOTECHNICAL REPORT BY YOUNGDAHL CONSULTING GROUP, INC. DATED AUGUST 2012

GEOTECHNICAL ENGINEERING STUDY
for
ARCO AM/PM
El Dorado Hills, California

Project No. E12181.000
August 2012



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Project No. E12181.000
22 August 2012

Cameron Park Petroleum, Inc.
301 Natoma Street, Suite 202
Folsom, California 95630

Attention: Mr. Marc Strauch

Subject: **ARCO AM/PM**
Sophia Parkway and Green Valley Road, El Dorado Hills, California
GEOTECHNICAL ENGINEERING STUDY

Reference:
1. Preliminary Conceptual Grading Layout for ARCO AM/PM, prepared by WD Partners, dated 3 April 2006.
2. Proposal and Executed Contract for ARCO AM/PM, prepared by Youngdahl Consulting Group, Inc. (Project No. E12181.000).

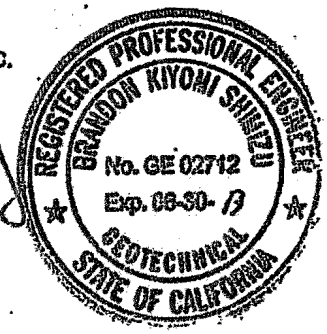
Dear Mr. Strauch:

In accordance with your authorization, Youngdahl Consulting Group, Inc. has performed a geotechnical engineering study for the project site located at the southeast corner of Sophia Parkway and Green Valley Road in El Dorado Hills, California. The purpose of this study was to explore and evaluate the surface and subsurface soil conditions at the site and to develop geotechnical information and design criteria for the proposed project. Our scope was limited to a subsurface investigation, laboratory testing, and preparation of this report per the Reference No. 2 proposal.

Based upon our field study, subsurface exploration program, laboratory testing and engineering analysis, we believe the primary geotechnical issues to be addressed during site development consist of the overexcavation of several generations of non-engineered fill stockpiles, as well as the potential excavation and drainage issues associated with the bedrock underlying the site. Other geotechnical issues may become more apparent during mass grading operations which are not listed above. The descriptions, findings, conclusions and recommendations provided in this report are formulated as a whole, and specific conclusions or recommendations should not be derived or used out of context. Please review the limitations and uniformity of conditions section of this report.

This report has been prepared for the exclusive use of Cameron Park Petroleum, Inc. and their consultants, for specific application to this project, in accordance with generally accepted geotechnical engineering practice. Should you have any questions or require additional information, please contact our office at your convenience.

Very truly yours,
Youngdahl Consulting Group, Inc.



Brandon K. Shimizu, P.E., G.E.
Senior Engineer

Distribution: (4) to Client

TABLE OF CONTENTS

GEOTECHNICAL ENGINEERING STUDY
for
ARCO AM/PM

1.0 INTRODUCTION

This report presents the results of our Geotechnical Engineering Study performed for the proposed gasoline station to be constructed at the southeast corner of Sophia Parkway and Green Valley Road in El Dorado Hills, California. Refer to Figure A-1 for a vicinity map for the project site.

Purpose and Scope

The purpose of this study was to explore and evaluate the surface and subsurface conditions at the site and to develop geotechnical information and design criteria for the proposed project. The scope of this study includes the following:

- A review of geotechnical and geologic data available to us at the time of our study.
- A field study consisting of a visual site reconnaissance, followed by an exploratory test pit program to characterize the subsurface conditions.
- A laboratory testing program performed on representative samples collected during our field study.
- Engineering analysis of the data and information obtained from our field study, laboratory testing, and literature review. Development of recommendations for site preparation and grading, and geotechnical design criteria for foundations, slabs-on-grade, retaining structures, asphalt concrete pavements, and underground facilities.
- Preparation of this report summarizing our findings, conclusions, and recommendations regarding the geotechnical aspects for the project.

2.0 PROJECT UNDERSTANDING

We understand that the proposed development will include the construction of a new gas station at the southeast corner of Green Valley Road and Sophia Parkway in El Dorado Hills, California. The proposed development will include construction of a convenience store, pump canopy and car wash. The building structures are anticipated to be of wood/metal frame or concrete masonry unit (CMU) construction and be supported by shallow conventional foundations and concrete slab on grade floors. The canopy is anticipated to be supported by pier foundations. Additional site improvements are anticipated to include retaining walls, underground utilities and pavements.

Based on a review of the Reference No. 1 grading plans, fills on the order of about 13 feet (maximum) are proposed to raise the site above Sophia Parkway and to an elevation equal with Green Valley Road. To accomplish this, approximately 18,000 cubic yards of import is proposed.

Background

If studies or plans exist that pertain to the site which are not cited as a reference in this report, we should be afforded the opportunity to review and modify our conclusions and recommendations as necessary.

3.0 FINDINGS

Surface Observations
The project site is a vacant lot located at the southeast corner of Sophia Parkway and Green Valley Road in El Dorado Hills, California. The project site is bounded by Green Valley Road to the north, by an existing recreational vehicle storage facility to the east, by open space to the south, and by Sophia Parkway to the west. The site is currently situated approximately 10 feet below the adjacent roadway grades of Sophia Parkway and Green Valley Road. The site grades are currently elevated from the native terrain by several feet of fill. These fill materials are covered in a light to moderate growth of weeds.

Subsurface Conditions
During a subsurface exploration program conducted on 7 August 2012, a representative from our firm excavated 6 test pits across the project site. The test pit excavations encountered relatively similar conditions within the maximum 13 foot depth of exploration. Test Pits TP-1 through TP-6 encountered FILLS comprised of silty SANDS in a loose to medium dense and dry condition from the surface to depths approaching 3 to 9 feet. Underlying the fill materials in Test Pits TP-1 through TP-4 and TP-6, sandy SILTS in a medium stiff to stiff and dry to very moist condition were encountered to depths approaching 5 to 11 feet. Underlying the silts in Test Pit TP-1, a 2 foot layer of sandy CLAY in a stiff and moist condition was encountered. Beneath the soil materials detailed above, weathered metavolcanic bedrock was encountered to the maximum depth explored in each test pit.

A more detailed description of the subsurface conditions encountered is presented graphically on the "Exploratory Test Pit Logs", Figures A-3 through A-8, presented in Appendix A. These logs show a graphic interpretation of the subsurface profile, and the location and depths at which samples were collected.

Groundwater Conditions
Groundwater was generally not encountered during our exploration. Generally, subsurface water conditions vary in the foothill regions because of many factors such as, the proximity to bedrock, fractures in the bedrock, topographic elevations, and proximity to surface water. Some evidence of past repeated exposure to subsurface water may include black staining on fractures, clay deposits, and surface markings indicating previous seepage. Based on our experience in the area, at varying times of the year water may be perched on less weathered rock and/or present in the fractures and seems of the weathered rock found beneath the site.

Laboratory Testing
The laboratory testing of collected samples was directed towards determining the physical and engineering properties of the soil underlying the site. A description of the tests performed and their results are presented in Appendix B. The following tests were performed:

- Direct Shear (ASTM D3080);
- Modified Proctor (ASTM D1557);
- R-Value (CAL 301).

Soil Expansion Potential
We encountered intermittent layers of clay overlying the bedrock horizon in Test Pit TP-1. In concentrated amounts, such clays could cause distress to concrete slab-on-grade floors and foundations if present in the upper 3 feet of the structural improvement areas. However, given

their limited presence and depth below the proposed finished grade, expansive soil mitigation measures are not anticipated to be required.

Geologic Conditions
The geologic portion of this report included a review of geologic data pertinent to the site, and an interpretation of our observations and the exploratory test pits excavated during the field study. The site is located within the western foothills region of the Sierra Nevada Mountain Range. According to the General Geologic Map of the Folsom 15-Minute Quadrangle (R.C. Lloyd, et. al., 1984) this portion of the foothills and the project area are underlain Copper Hill Volcanics of Jurassic Age.

Seismicity
According to the Fault Activity Map of California and Adjacent Areas (Jennings, 1994) and the Peak Acceleration from Maximum Credible Earthquakes in California (CDMG, 1992), no active faults or Earthquake Fault Zones (Special Studies Zones) are located on the project site. No evidence of recent or active faulting was observed during our field study. The nearest mapped faults to the site are related to the Bear Mountains and Melones Fault Zones located from 3 to 27 kilometers east of the site, respectively. The nearest mapped active fault to the site is the Dunnigan Hills fault located about 65 kilometers to the west-northwest.

Based on our literature review of shear-wave velocity characteristics of geologic units in California (Wills and Silva; August 1998: Earthquake Spectra, Volume 14, No. 3) and subsurface interpretations, we recommend that the project be designed in accordance with the 2010 California Building Code (CBC), Chapter 16. This site is classified as Site Class C in accordance with Table 1613.5.2.

Liquefaction, Slope Instability and Surface Rupture Potential
Liquefaction is the sudden loss of soil shear strength and sudden increase in porewater pressure caused by shear strains, as could result from an earthquake. Research has shown that saturated, loose to medium-dense sands with a silt content less than about 25 percent located within the top 40 feet are most susceptible to liquefaction and surface rupture/lateral spreading. Slope instability can occur as a result of seismic ground motions and/or in combination with weak soils and saturated conditions.

Due to the absence of a permanent elevated groundwater table, the relatively low seismicity of the area, and the relatively shallow depth to the bedrock horizon, the potential damage due to site liquefaction, slope instability and surface rupture are considered negligible. For the above-mentioned reasons, mitigation for these potential hazards is typically not practiced in the geographic vicinity of the project site.

4.0 RECOMMENDATIONS

General
Based upon the results of our field explorations and analysis, it is our opinion that construction of the proposed improvements is feasible from a geotechnical standpoint, provided the recommendations contained in this report are incorporated into the design plans and implemented during construction. The native soils, rock, and/or engineered fills composed of like materials and processed and compacted as recommended below are considered suitable for support of the planned improvements. The undocumented fills are relatively soft and are not considered suitable for support of the proposed improvements in their current condition. Recommendations are presented below for the overexcavation and recompaction of the existing fill materials on the site.

4.1 SITE GRADING AND IMPROVEMENTS

Site Preparation
Preparation of the project site should involve site drainage controls, dust control, clearing, stripping, and site overexcavation considerations. The following paragraphs state our geotechnical comments and recommendations concerning site preparation.

Site Drainage Controls: We recommend that initial site preparation involve intercepting and diverting any potential sources of surface or near-surface water within the construction zones. Because the selection of an appropriate drainage system will depend on the water quantity, season, weather conditions, construction sequence, and contractor's methods, final decisions regarding drainage systems are best made in the field at the time of construction. All drainage and/or water diversion performed for the site should be in accordance with the Clean Water Act and applicable Storm Water Pollution Prevention Plan.

Dust Control: Dust control provisions should be provided for as required by the local jurisdiction's grading ordinance (i.e. water truck or other adequate water supply during grading).

Clearing and Stripping: Clearing and stripping operations should remove all organic laden materials including trees, bushes, root balls, root systems, and any soft or loose material generated from removal operations. Surface grass stripping operations are necessary based upon recent observations during our site visit. It is the responsibility of the grading contractor to remove excess organics from the fill materials. No more than 2 percent of organic material, by weight, should be allowed within the fill materials at any given location.

General site clearing should also include removal of any loose or saturated materials from the proposed structural improvement and pavement areas. A representative of our firm should be present during site clearing operations to identify the location and depth of potential fills not disclosed by this report, to observe removal of deleterious materials, and to identify any existing site conditions which may require mitigation prior to site development.

Site Overexcavation: Following general site clearing, all existing fills and fill stockpiles should be over-excavated down to firm native materials. Reference should be made to the site description and test pit logs for anticipated fill locations and depths. Any depressions extending below final grade resulting from the removal of fill materials or other deleterious materials should be properly prepared as discussed below and backfilled with engineered fill. Prior to placement of engineered fill, the exposed soil surfaces receiving fills should be scarified to a minimum depth of 8 inches, moisture conditioned as necessary, and compacted to at least 90 percent of the maximum dry density based on the ASTM D1557 test method. Additionally, test pits should be re-excavated and backfilled with engineered fill.

Soil Moisture Considerations
The near-surface fine grained soils may become partially or completely saturated during the rainy season. Grading operations during this time period may be difficult since compaction efforts may be hampered by saturated materials. It is, therefore, suggested that consideration be given to the seasonal limitations and costs of winter grading operations on the site. Special attention should be given regarding the drainage of the project site. If the project is expected to work through the wet season, the contractor should install appropriate temporary drainage systems at the construction site and should minimize traffic over exposed subgrades due to the moisture-sensitive nature of the on-site soils. During wet weather operations, the soil should be graded to drain and should be sealed by rubber tire rolling to minimize water infiltration.

Excavation Characteristics

The test pits were excavated using a CAT 430D backhoe equipped with an 18 inch wide bucket. The degree of difficulty encountered in excavating our test pits is an indication of the effort that will be required for excavation during construction. Based on our test pits, we expect that the site soils can be excavated using conventional earthmoving equipment such as a Caterpillar D6 to D8 for mass grading and rubber tired backhoe for trench excavations.

The underlying rock materials can likely be excavated to depths of several feet using dozers equipped with rippers. We expect that the upper weathered portion of the rock will require use of a Caterpillar D8 equipped with a single or multiple shank rippers, or similar equipment. We anticipate that a ripper equipped D8 can penetrate at least as deep as our test pits at most locations with moderate effort. Deeper excavation into the less weathered rock may require heavier equipment, such as a D9, or a D10. Blasting cannot be ruled out in areas of resistant rock.

Where hard rock cuts in fractured rock are proposed, the orientation and direction of ripping will likely play a large role in the rippability of the material. When hard rock is encountered, we should be contacted to provide additional recommendations prior to performing an alternative such as blasting.

Utility trenches will likely encounter hard rock excavation conditions especially in deeper cut areas. Utility contractors should be prepared to use special rock trenching equipment such as large excavators (Komatsu PC400 or CAT 345 or equivalent). Blasting to achieve utility line grades, especially in planned cut areas, cannot be precluded. Water inflow into any excavation approaching hard rock surface is likely to be experienced in all but the driest summer and fall months. Pre-ripping during mass grading may be beneficial and should be considered with the Geotechnical Engineer prior to, or during mass grading.

Engineered Fills

All materials placed as fills on the site should be placed as "Engineered fill" observed and compacted as described in the following paragraphs.

Suitability of Onsite Materials: We anticipate that a moderate amount of onsite soils will be generated during mass grading operations. We expect that soil generated from excavations on the site, excluding deleterious material, may be used as engineered fill provided the material does not exceed the maximum size specifications listed below.

Rock fragments or boulders exceeding 12 inches in maximum dimension should not be placed within the upper five feet of site grades or utility corridors. The upper 5 feet of the site grades and within the zone of the proposed canopy pier excavations should consist of predominantly rocks and rock fragments less than 12 inches in maximum dimension. Boulders over 12 inches in maximum dimension should be placed within the deeper portions of fill embankments below a depth of 5 feet and a minimum of 5 feet from the finish slope face. The individual boulders should be spaced such that compaction of finer rock and soil materials between the boulders can be achieved with the equipment being used for compaction. Materials placed between the boulders should consist of predominantly soil and rock less than 12 inches in maximum dimension. The soil/rock mixture should be thoroughly mixed and placed between the boulders so as to preclude nesting or the formation of voids. Should insufficient deep fill areas exist for oversize rock disposal, the contractor should either dispose of the excess materials to an offsite location or mechanically reduce the rocks to less than 12 inches.

Fill Placement and Compaction: All areas proposed to receive fill should be scarified to a minimum depth of 8 inches, moisture conditioned as necessary, and compacted to at least 90 percent of the maximum dry density based on the ASTM D1557 test method. The fill should be placed in thin horizontal lifts not to exceed 12 inches in uncompacted thickness. The fill should be moisture conditioned as necessary and compacted to a relative compaction of not less than 90 percent based on the ASTM D1557 test method. The upper 8 inches of fills placed under proposed pavement areas should be compacted to a relative compaction of not less than 95 percent based on the ASTM D1557 test method. Expansive clays, if encountered, should not be placed within the upper three feet of building pad and subgrade level. Alternatively, clays may be mixed thoroughly with less expansive on site materials (silts, sands, and gravels). Proper disposition of clays on site should be verified by a representative of Youngdahl Consulting Group, Inc.

To mitigate the potential for deep fill settlement, all fills placed deeper than 10 feet from finished grade should be compacted to a minimum of 95 percent relative compaction. The fills should be placed at a minimum of two percent over optimum moisture content.

Fill soil compaction should be verified by means of in-place density tests performed during fill placement so that adequacy of soil compaction efforts may be evaluated as earthwork progresses, or by method specification (as described below) if the quantity of rock fragments in the fills preclude traditional compaction testing. This will likely include the excavation of test pits within the fill materials to observe and document that a uniform over-optimum moisture condition, and absence of large and/or concentrated voids has been achieved prior to additional fill placement.

Method Specification: Soils exceeding 30 percent rock by mass may be considered non-testable by conventional methods. The materials may be placed as engineered fill if placed in accordance with the following method specification during full time observation by a representative of our firm.

Soils should be moisture conditioned and compacted in place by a minimum of four completely covering passes with a Caterpillar 825, or approved equivalent. The compactor's last two passes should be at 90 degrees to the initial passes. In areas where 95 percent relative compaction is designated, an additional two passes should be applied in each direction, with three completely covering passes made at 90 degrees to the initial three passes. Engineered fill should be constructed in lifts not exceeding 12 inches in uncompacted thickness, moisture conditioned and compacted in accordance with the above specification. Additional passes as deemed necessary during fill placement to achieve the desired condition based upon field conditions may be recommended.

Import Materials: If imported fill material is needed for this project, import material should be approved by the Geotechnical Engineer prior to transporting it to the project. It is preferable that import material meet the following requirements:

1. Plasticity index not to exceed 12.
2. Not more than 15% passing through the No. 200 sieve;
3. Have an internal angle of friction of at least 33 degrees;
4. "R"-value of equal to or greater than 30;
5. Should not contain rocks larger than 6 inches in diameter.

If these requirements are not met, additional testing and evaluation may be necessary to determine the appropriate design parameters for foundations, pavement and other improvements.

Slope Configuration and Grading
Generally a cut slope orientation of 2H:1V is considered stable with the material types encountered on the site. A fill slope constructed at the same orientation is considered stable if compacted to the engineered fill recommendations as stated in the recommendations section of this report. All slopes should have appropriate drainage and vegetation measures to minimize erosion of slope soils.

Placement of Fills on Slopes: Placement of fill material on natural slopes should be stabilized by means of keyways and benches. Where the slope of the original ground equals or exceeds 5H:1V, a keyway should be constructed at the base of the fill. The keyway should consist of a trench excavated to a depth of at least two feet into firm, competent materials. The keyway trench should be at least eight feet wide or as designated by the Geotechnical Engineer. Benches should be cut into the original slope as the filling operation proceeds. Each bench should consist of a level surface excavated at least six feet horizontally into firm soils or four feet horizontally into rock. The rise between successive benches should not exceed 36 inches. The need for subdrainage should be evaluated at the time of construction.

Slope Face Compaction: All slope fills should be laterally overbuilt and cut back such that the required compaction is achieved at the proposed finish slope face. As a less preferable alternative, the slope face could be track walked or compacted with a wheel. If this second alternative is used, additional slope maintenance may be necessary.

Slope Drainage: Surface drainage should not be allowed to flow uncontrolled over any slope face. Adequate surface drainage control should be designed by the project civil engineer in accordance with the latest applicable edition of the CBC. All slopes should have appropriate drainage and vegetation measures to minimize erosion of slope soils.

Underground Improvements
Trench Excavation: Trenches or excavations in soil should be shored or sloped back in accordance with current OSHA regulations prior to persons entering them. The potential use of a shield to protect workers cannot be precluded.

Backfill Materials: Backfill materials for utilities should conform to the local jurisdiction's requirements. It should be realized that permeable backfill materials will likely carry water at some time in the future.

When backfilling within structural footprints, compacted low permeability materials are recommended to be used a minimum of 5 feet beyond the structural footprint to minimize moisture intrusion. If a permeable material is used as backfill within this zone, subdrainage mitigation may be required.

Backfill Compaction: All backfill, placed after the underground facilities have been installed, should be compacted a minimum of 90 percent relative compaction. Compaction should be accomplished using lifts which do not exceed 12 inches. However, thickness of the lifts should be determined by the contractor. If the contractor can achieve the required compaction using thicker lifts, the method may be judged acceptable based on field verification by a representative of our firm using standard density testing procedures. Light weight compaction equipment may require thinner lifts to achieve the required densities.

Drainage Considerations: In areas with the potential for a perched groundwater condition (i.e. bedrock horizons), underground utilities can become collection points for subsurface water. When these conditions are present, we recommend permanent subdrainage mitigation

measures be installed. Such measures may include plug and drains within the utility trenches to collect and convey water to the storm drain system or other approved outlet. Temporary dewatering measures may be necessary and could include the installation of submersible pumps and/or point wells.

4.2 DESIGN RECOMMENDATIONS

Foundations
We offer the following comments and recommendations for purposes of foundation design and construction. The provided minimums do not constitute a structural design of foundations which should be performed by the structural engineer. Our firm should be afforded the opportunity to review the project grading and foundation plans to confirm the applicability of the recommendations provided below. Modifications to these recommendations may be made at the time of our review. In addition to the provided recommendations, foundation design and construction should conform to applicable sections of the 2010 California Building Code.

In our opinion, isolated or continuous shallow spread footings will provide adequate support for the proposed buildings if the subgrades are properly prepared as described in the Site Grading and Improvement section. We offer the following comments and recommendations for purposes of footing design and construction. The provided minimums do not constitute a structural design of foundations which should be performed by the structural engineer. Our firm should be afforded the opportunity to review the project grading and foundation plans to confirm the applicability of the recommendations provided below. Modifications to these recommendations may be made at the time of our review. In addition to the provided recommendations, foundation design and construction should conform to applicable sections of the 2010 California Building Code.

Bearing Capacities: An allowable dead plus live load bearing pressure of 2,500 psf may be used for design of footings based on engineered fills. This capacity is based upon a minimum foundation depth of 18 inches below the lowest adjacent grade. The above allowable pressures are for support of dead plus live loads and may be increased by 1/3 for short term wind and seismic loads.

A total settlement of less than 1 inch is anticipated; a differential settlement of ½ of the total is anticipated where foundations are bearing on like materials. This settlement is based upon the assumption that foundations will be sized in accordance with the provided allowable bearing capacities.

Lateral Pressures: Lateral forces on structures may be resisted by passive pressure acting against the sides of shallow footings and/or friction between the soil and the bottom of the footing. For resistance to lateral loads, a friction factor of 0.35 may be utilized for sliding resistance at the base of spread footings in undisturbed native materials or engineered fill. A passive resistance of 350 pcf equivalent fluid weight may be used against the side of shallow footings in native soil or engineered fill. If friction and passive pressures are combined, the lesser value should be reduced by 50 percent.

Footing Configuration: Foundation reinforcement should be provided by the structural engineer. The reinforcement schedule should account for typical construction issues such as load consideration, concrete cracking, and the presence of isolated irregularities. At a minimum, we recommend that continuous spread footing foundations be reinforced with four No. 4 reinforcing bars, two located near the bottom of the footing and two near the top of the stem wall.

All footings should be founded below an imaginary 2H:1V plane projected up from the bottoms of adjacent footings and/or parallel utility trenches, or to a depth that achieves a minimum horizontal clearance of 6 feet from the outside toe of the footings to the slope face, whichever requires a deeper excavation.

Foundations for the proposed structures should be a minimum of 12 inches in width, and be founded a minimum of 18 inches below the lowest adjacent grade. Isolated pad footings should be a minimum of 24 inches wide. The depth and width of footings should be based on the actual loads being supported.

Subgrade Conditions: Footings should never be cast atop soft, loose, organic, slough, debris, nor atop subgrades covered by ice or standing water. A representative of our firm should be retained to observe all subgrades during footing excavations and prior to concrete placement so that a determination as to the adequacy of subgrade preparation can be made.

Shallow Footing / Stemwall Backfill: All footing/stemwall backfill soil should be compacted to at least 90 percent of the maximum dry density (based on ASTM D1557).

Drilled Pier Foundations

Bearing Capacities: An 18-inch diameter, approximately 10 feet long, cast-in-place reinforced concrete pier may be used to support the fueling station canopy. The axial capacities of the piers were evaluated based on laboratory test results. The axial pier capacities summarized in the table below are for a single pier spaced with a minimum of 3 pile diameters on center. These capacities may be increased by 1/3 for short term wind and seismic loads. For piers spaced at less than 3 diameters on center, additional group capacity reduction effects should be taken into account in evaluating the allowable axial capacity of the pile groups. For resistance to lateral loads, a passive resistance of 350 pcf may be applied over 1.5 pier diameters.

Axial Pier Capacity
Drilled Cast-In-Place Concrete Pier (10 feet long)

Pile Diameter (Inches)	Allowable Point Bearing Resistance (kips)	Allowable Frictional Resistance (kips)	Allowable Uplift Capacity (kips)	Total Allowable Axial Pier Capacity (kips)
18	10	0	3	10

Other pile sizes and/or configuration may be used. Appropriate parameters will be provided upon request when the data becomes available.

Construction Considerations: Precautions should be taken during pier excavations to reduce caving and raveling. The following recommendations are presented and should be followed where applicable.

- Piers should be installed under the full-time observation of Youngdahl Consulting Group, Inc.
- Pier excavations should be filled with concrete as soon as possible following drilling. Pier excavations should not be left open overnight. Standing water should be pumped, and any slough cleaned out of the bottom of the excavation prior to placing concrete.
- In the event of excessive caving of soil into the pier excavation, casing should be used. Casing may be pulled as the pile excavation is filled with concrete. The use of "wet" construction, such as "super-mud", is not recommended.

- Concrete should be placed and vibrated throughout the full length of the pier so that voids do not exist in either the pier base or the shaft. Placement procedures, such as tremie, should be used so that the concrete is not allowed to fall freely more than 5 feet and to prevent concrete from striking the walls of the excavations and possibly causing caving.

Seismic Criteria

Based on the 2010 California Building Code, Chapter 16, and our site investigation findings, the following seismic parameters are recommended from a geotechnical perspective for structural design. The final choice of design parameters, however, remains the purview of the project structural engineer.

CBC - CHAP. 16	SEISMIC PARAMETER	RECOMMENDED VALUE
Table No. 1613.5.2	Site Class	C
Figure No. 1613.5(3)*	Short-Period MCE at 0.2s, S_S	0.385g
Figure No. 1613.5(4)*	1.0s Period MCE, S_1	0.193g
Table No. 1613.5.3(1)**	Site Coefficient, F_a	1.20
Table No. 1613.5.3(2)**	Site Coefficient, F_v	1.61
Equation 16-36	Adjusted MCE Spectral Response Parameters, $S_{MS} = F_a S_s$	0.462
Equation 16-37	Adjusted MCE Spectral Response Parameters, $S_{M1} = F_v S_1$	0.310
Equation 16-38	Design Spectral Acceleration Parameters, $S_{DS} = \frac{2}{3} S_{MS}$	0.308
Equation 16-39	Design Spectral Acceleration Parameters, $S_{D1} = \frac{2}{3} S_{M1}$	0.206
Table 1613.5.6(1)	Seismic Design Category (Short Period), Occupancy I to III	B
Table 1613.5.6(1)	Seismic Design Category (Short Period), Occupancy IV	C
Table 1613.5.6(2)	Seismic Design Category (1-Second Period), Occupancy I to III	D
Table 1613.5.6(2)	Seismic Design Category (1-Second Period), Occupancy IV	D

Notes: * Values from Figures 1613.5(3)/(4) are derived from the National Earthquake Hazards Reduction Program (NEHRP) for Site Class B soil profiles.
** Values from Tables 1613.3(1)/(2) are adjustments to account for the Site Class (Project Specific) provided in Table 1613.5.2.

Slab-on-Grade Construction

It is our opinion that soil-supported slab-on-grade floors could be used for the main floor, contingent on proper subgrade preparation. Often the geotechnical issues regarding the use of slab-on-grade floors include proper soil support and subgrade preparation, proper transfer of loads through the slab underlayment materials to the subgrade soils, and the anticipated presence or absence of moisture at or above the subgrade level. We offer the following comments and recommendations concerning support of slab-on-grade floors. *The slab design (concrete mix, reinforcement, joint spacing, moisture protection and underlayment materials) is the purview of the project Structural Engineer.*

Slab Subgrade Preparation: All subgrades proposed to support slab-on-grade floors should be prepared and compacted to the requirements of engineered fill as discussed in the Site Grading and Improvements section of this report.

Slab Underlayment: As a minimum for slab support conditions, the slab should be underlain by a minimum 4 inch crushed rock layer and covered by a minimum 10-mil moisture retarding plastic membrane. An optional 1 inch blotter sand layer above the plastic membrane is sometimes used to aid in curing of the concrete. If the blotter is omitted, special curing procedures may be necessary. The blotter layer can become a reservoir for excessive moisture if inclement weather occurs prior to pouring the slab, excessive water collects in it from the concrete pour, or an external source of water enters above or bypasses the membrane. The membrane may only be functional when it is above the vapor sources. The bottom of the crushed rock layer should be above the exterior grade to act as a capillary break and not a reservoir, unless it is provided with an underdrain system. The slab design and underlayment should be in accordance with ASTM E1643 and E1745.

Slab Moisture Protection: Due to the potential for landscape to be present directly adjacent to the slab edge/foundation or for drainage to be altered following our involvement with the project, varying levels of moisture below, at, or above the pad subgrade level should be anticipated. The slab designer should include the potential for moisture vapor transmission when designing the slab. Our experience has shown that vapor transmission through concrete is controlled through slab thickness as well as proper concrete mix design.

It should be noted that placement of the recommended plastic membrane, proper mix design, and proper slab underlayment and detailing per ASTM E1643 and E1745 will not provide a waterproof condition. If a waterproof condition is desired, we recommend that a waterproofing expert be consulted for slab design.

Slab Thickness and Reinforcement: Geotechnical reports have historically provided minimums for slab thickness and reinforcement for general crack control. The concrete mix design and construction practices can additionally have a large impact on concrete crack control. All concrete should be anticipated to crack. As such, these minimums should not be considered to be stand alone items to address crack control, but are suggested to be considered in the slab design methodology.

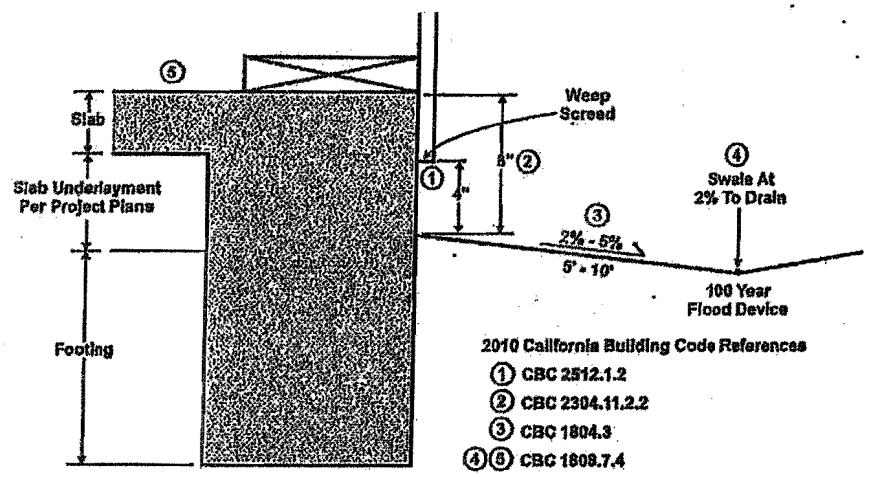
In order to help control the growth of cracks in interior concrete from becoming significant, we suggest the following minimums. Interior concrete slabs-on-grade not subject to heavy loads should be a minimum of 4 inches thick. A 4 inch thick slab should be reinforced. A minimum of No. 3 deformed reinforcing bars placed at 24 inches on center both ways, at the center of the structural section is suggested. Joint spacing should be provided by the structural engineer. Troweled joints recovered with paste during finishing or "wet sawn" joints should be considered every 10 feet on center. Expansion joint felt should be provided to separate floating slabs from foundations and at least at every third joint. Cracks will tend to occur at recurrent corners, curved or triangular areas and at points of fixity. Trim bars can be utilized at right angle to the predicted crack extending 40 bar diameters past the predicted crack on each side.

Vertical Deflections: Soil-supported slab-on-grade floors can deflect downward when vertical loads are applied, due to elastic compression of the subgrade. For design of concrete floors, a modulus of subgrade reaction of k = 150 psi per inch would be applicable for native soils and engineered fills.

Exterior Flatwork: Exterior concrete flatwork need not be underlain by a rock cushion where non-expansive soils are encountered. However, some vertical movement of concrete should be anticipated when arranging outside concrete flatwork joints where rock is omitted.

If exterior flatwork concrete is against the floor slab edge without a moisture separator it may transfer moisture to the floor slab. Expansion joint felt should be provided to separate exterior flatwork from foundations and at least at every third joint. Contraction / groove joints should be provided to a depth of at least 1/4 of the slab thickness and at a spacing of less than 30 times the slab thickness for unreinforced flatwork, dividing the slab into nearly square sections. Cracks will tend to occur at recurrent corners, curved or triangular areas and at points of fixity. Trim bars can be utilized at right angle to the predicted crack extending 40 bar diameters past the predicted crack on each side.

Drainage Adjacent to Slabs: All grades should provide rapid removal of surface water runoff; ponding water should not be allowed on building pads or adjacent to foundations or other structural improvements (during and following construction). All soils placed against foundations during finish grading should be compacted to minimize water infiltration. Finish and landscape grading should include positive drainage away from all foundations. Section 1808.7.4 of the 2010 California Building Code (CBC) states that for graded soil sites, the top of any exterior foundation shall extend above the elevation of the street gutter at the point of discharge or the inlet of an approved drainage device a minimum of 12 inches plus 2 percent. If overland flow is not achieved adjacent to buildings, the drainage device should be designed to accept flows from a 100 year event. Grades directly adjacent to foundations should be no closer than 8 inches from the top of the slab (CBC 2304.11.2.2), and weep screeds are to be placed a minimum of 4 inches clear of soil grades and 2 inches clear of concrete or other hard surfacing (CBC 2512.1.2). From this point, surface grades should slope a minimum of 2 percent away from all foundations for at least 5 feet but preferably 10 feet, and then 2 percent along a drainage swale to the outlet (CBC 1804.3). Downspouts should be tight piped via an area drain network and discharged to an appropriate non-erosive outlet away from all foundations.



Typical 2010 California Building Code Drainage Requirements

The above referenced elements pertaining to drainage of the proposed structures is provided as general acknowledgement of the California Building Code requirements, restated and graphically illustrated for ease of understanding. Surface drainage design is the purview of the Project Architect/Civil Engineer. Review of drainage design and implementation adjacent to the building envelopes is recommended as performance of these improvements is crucial to the performance of the foundation and construction of rigid improvements.

It should be noted that due to the Americans with Disabilities Act (ADA) requirements, design and construction of alternative site drainage configurations may be necessary, particularly for commercial developments. In this case, design and construction of adequate drainage adjacent to foundations and slabs are essential to preserving foundation support and reducing the potential for wet slab related issues. A typical example of this condition occurs in commercial developments where the landscape grades are situated at the same elevation as the parking areas so as to not create a drop off between the grades. This condition subsequently results in flat grades between the building, landscape area and parking lot which does not meet buildng code requirements.

Retaining Walls

Our design recommendations and comments regarding retaining walls for the project site are discussed below.

Retaining Wall Foundations: For footings founded a minimum of 18 inches into engineered fill or firm native soil, an allowable dead plus live load bearing capacity of 2,500 psf should be used. The above allowable pressure may be increased by 1/3 for short term wind or seismic loads.

Resisting Forces: Lateral forces on the retaining walls may be resisted by passive pressure acting against the side of the wall footing and/or friction between the soil and the bottom of the footing. A passive equivalent fluid weight of 350 pcf may be used against the sides of shallow footings founded in native soil or engineered fill. A friction factor of 0.35 may be used at the base of footings founded on soil or engineered fill. If friction and passive pressures are combined, the lesser value should be reduced by 50 percent. All backfill placed behind retaining walls or against retaining wall footings should be compacted in accordance with the "Engineered Fill" section of this report.

Retaining Wall Lateral Pressures: Based on our observations and testing, the retaining wall should be designed to resist lateral pressure exerted from a soil media having an equivalent fluid weight as follows.

Wall Type	Wall Slope Configuration	Equivalent Fluid Weight (pcf)	Surcharge Load (psf)*	Lateral Pressure Coefficient	Earthquake Loading (plf)***
Free Cantilever	Flat	40	per structural	0.32	$16H^2$ Applied 0.6H above the base of the wall
	2H:1V	60	per structural	0.48	
Restrained**	Flat	60	per structural	0.48	

* The surcharge loads should be applied as uniform loads over the full height of the walls as follows: Surcharge Load (psf) = (q) (K), where q = surcharge in psf, and K = coefficient of lateral pressure. Final design is the purview of the project structural engineer.

** Restrained conditions shall be defined as walls which are structurally connected to prevent flexible yielding, or rigid wall configurations (i.e. walls with numerous turning points) which prevent the yielding necessary to reduce the driving pressures from an at-rest state to an active state.

*** Section 1803.5.12 of the 2010 California Building Code states that a determination of lateral pressures on basement and retaining walls due to earthquake loading shall be provided for structures to be designed in Seismic Design Categories D, E or F (Load value derived from Wood (1973) and modified by Whitman (1991)).

Modular Block or Rockery Walls: If keyed or interlocking non-mortared walls such as Keystone or Allen Block walls, or rockery walls are utilized, the following soil parameters would be applicable for design within on-site, native materials:

Internal Angle of Friction	Cohesion	Optimum Dry Unit Weight	Optimum Moisture
33°	0 psf	135 psf	10%

Wall Drainage: The above criteria are based on fully drained conditions. For these conditions, we recommend that a blanket of filter material be placed behind all proposed walls. The blanket of filter material should be a minimum of 12 inches thick and should extend from the bottom of the wall to within 12 inches of the ground surface. The filter material should conform to Class One, Type B permeable material as specified in Section 68 of the California Department of Transportation Standard Specifications, current edition. A clean ⅜ inch angular gravel or ¾ inch crushed rock is also acceptable, provided filter fabric is used to separate the open graded gravel/rock from the surrounding soils. The top 12 inches of wall backfill should consist of a compacted native soil cap. A filter fabric should be placed on top of the gravel filter material to separate it from the native soil cap. A 4 inch diameter drain pipe should be installed near the bottom of the filter blanket with perforations facing down. The drain pipe should be underlain by at least 4 inches of filter-type material. Adequate gradients should be provided to discharge water that collects behind the retaining wall to a controlled discharge system. Prior to placement of the drainage blanket, additional consideration should be given to the use of a waterproofing membrane such as bituthene or equivalent membrane system on the outside of the wall.

The configuration of a long retaining wall generally does not allow for a positive drainage gradient within the perforated drain pipe behind the wall since the wall footing is generally flat with no gradient for drainage. Where this condition is present, to maintain a positive drainage behind the walls, we recommend that the wall drains be provided with a discharge to an appropriate non-erosive outlet a maximum of 50 feet on center. **In addition, if the wall drain outlets are temporarily stubbed out in front of the walls for future connection during site construction, it is imperative that the outlets be routed into the tight pipe area drainage system and not buried and rendered ineffective.**

Pavement Design

We understand that asphaltic pavements will be used for the associated drive aisles and parking areas. The following comments and recommendations are given for pavement design and construction purposes. All pavement construction and materials used should conform to applicable sections of the latest edition of the California Department of Transportation Standard Specifications.

Subgrade Compaction: After installation of any underground facilities, the upper 8 inches of subgrade soils under pavements sections should be compacted to a minimum relative compaction of 95 percent based on the ASTM D1557 test method at a moisture content near or above optimum. Aggregate bases should also be compacted to a minimum relative compaction of 95 percent based on the aforementioned test method.

Subgrade Stability: All subgrades and aggregate base should be proof-rolled with a full water truck or equivalent immediately before paving, in order to verify their condition. If unstable subgrade conditions are observed, these areas should be overexcavated down to firm materials and the resulting excavation backfilled with suitable materials for compaction (i.e. drier native

soils or aggregate base). Areas displaying significant instability may require geotextile stabilization fabric within the overexcavated area, followed by placement of aggregate base. Final determination of any required overexcavation depth and stabilization fabric should be based on the conditions observed during subgrade preparation.

Design Criteria: Critical features that govern the durability of a pavement section include the stability of the subgrade; the presence or absence of moisture, free water, and organics; the fines content of the subgrade soils; the traffic volume; and the frequency of use by heavy vehicles. Soil conditions can be defined by a soil resistance value, or "R"-Value, and traffic conditions can be defined by a Traffic Index (TI).

Design Values: The table below provides recommended pavement sections based on the "R" - Value test (California Test Method 301-F) performed on a bulk sample representative of the sandy SILTS materials expected to be exposed at subgrade as well as our experience with similar materials in the area. An R-value of 46 was determined for the silty SANDS tested; however, to account for the expansion pressures developed during our laboratory testing, as well as the potential variability of the import fill materials, we used an R-Value of 30 in our design. Review of the test pit logs indicate that clay soils were encountered in some locations. *If clay soils are encountered, we should review pavement subgrades to determine the appropriateness of the provided sections, and provide additional pavement design recommendations as field conditions dictate. Even minor clay constituents will greatly reduce the design R-Value.* The recommended design thicknesses presented in Table 1 were calculated in accordance with the methods presented in the latest update of the Fifth Edition of the California Department of Transportation Highway Design Manual. A varying range of traffic indices are provided for use by the project Civil Engineer for roadway design.

Design values provided are based upon properly drained subgrade conditions. Although the R-Value design to some degree accounts for wet soil conditions, proper surface and landscape drainage design is integral in performance of adjacent street sections with respect to stability and degradation of the asphalt.

Recommended Pavement Design Thickness

DESIGN TRAFFIC INDICES	ALTERNATIVE PAVEMENT SECTIONS (INCHES)	
	ASPHALT CONCRETE *	AGGREGATE BASE **
4.5	2.5 3.0	5.5 4.5
5.0	2.5 3.0	7.0 5.5
5.5	3.0 3.5	7.5 6.5
6.0	3.0 3.5	8.5 7.5
6.5	3.5 4.0	9.5 8.5

NOTES:
* Asphaltic Concrete: must meet specifications for CAL TRANS Type B Asphaltic Concrete
** Aggregate Base: must meet specifications for CAL TRANS Class II Aggregate Base ("R"-Value = minimum 78)

Portland Cement Concrete Pavement Design

We understand that Portland cement concrete pavements may be considered for various aspects of exterior paving for the site. The American Concrete Institute (ACI) Concrete Pavement Design method (ACI 330R-08) was used for design of the exterior concrete (rigid) pavements at the site. The pavement thicknesses were evaluated based on the soil design parameters provided in the following table.

Soil Parameters

Subgrade Soil Description	k, Modulus of Subgrade Reaction*	Base Course
Silty SAND	170 pci	6 inches

* Based on an R-Value of 30 as recommended above and correlated to a k-value recommended by ACI 330R.

Based on the subgrade soil parameters shown in the above table, the recommended concrete thicknesses for various traffic descriptions are presented in the table below. The recommended thicknesses provided below assume the use of plain (non-reinforced) concrete pavements.

We recommend that the rigid pavement be placed on at least 6 inches of aggregate base compacted to at least 95 percent of the maximum dry density per the ASTM D 1557 test method. From a geotechnical perspective, contraction joints should be placed in accordance with the American Concrete Institute (ACI) recommendations which include providing a joint spacing about 30 times the slab thickness up to a maximum of 10 feet. The joint patterns should also divide the slab into nearly square panels. If increased joint spacing is desired, reinforcing steel should be installed within the pavement in accordance with ACI recommendations. Final determination of steel reinforcement configurations (if used within the pavements) remains the purview of the Project Structural Engineer.

Concrete Pavement Section Recommendations

Category	ADTT*	Pavement Traffic Description	Thickness (inches)	
			3000 psi**	4000 psi**
A	1	Car parking areas and access lanes	5.0	4.5
A	10	Autos, pickups, and panel trucks only	5.5	5.0
B	25	Shopping center entrance and service lanes	6.0	5.5
B	300	Bus parking areas and interior lanes Single-unit truck parking areas and interior lanes	7.0	6.0
C	100	Roadway Entrances and Exterior Lanes	7.0	6.5
C	300		7.5	6.5
C	700		7.5	7.0

* Average Daily Truck Traffic
** 28-day concrete compressive strength

Drainage Considerations

In order to maintain the engineering strength characteristics of the soil presented for use in the final Geotechnical Engineering Study, maintenance of the site will need to be performed. This maintenance generally includes, but is not limited to, proper drainage and control of surface and subsurface water which could affect structural support and fill integrity. A difficulty exists in determining which areas are prone to the negative impacts resulting from high moisture conditions due to the diverse nature of potential sources of water; some of which are outlined in the paragraph below. We suggest that measures be installed to minimize exposure to the adverse effects of moisture, but this will not guarantee that excessive moisture conditions will not affect the structure.

Some of the diverse sources of moisture could include water from landscape irrigation, annual rainfall, offsite construction activities, runoff from impermeable surfaces, collected and channeled water, and water perched in the subsurface soils on the cemented soil horizon. Some of these sources can be controlled through drainage features installed by the developer. Others may not become evident until they, or the effects of the presence of excessive moisture, are visually observed on the property.

Some measures that can be employed to minimize the build up of moisture include, but are not limited to; proper backfill materials and compaction of utility trenches on the site and within the footprint of the proposed structures to minimize the transmission of moisture through these areas; grout plugs at foundation penetrations; collection and channeling of drained water from impermeable surfaces (i.e. roofs, concrete or asphalt paved areas); installation of subdrain/cut-off drain provisions; utilization of low flow irrigation systems.

Post Construction: All drainage related issues may not become known until after construction and landscaping are complete. Therefore, some mitigation measures may be necessary following site development. Landscape watering is typically the largest source of water infiltration into the subgrade. Given the soil conditions on site, excessive or even normal landscape watering may contribute to groundwater levels rising, which could contribute to moisture related problems and/or cause distress to foundations and slabs, pavements, and underground utilities, as well as creating a nuisance where seepage occurs. In order to mitigate these conditions, additional subdrainage measures may be necessary.

5.0 DESIGN REVIEW AND CONSTRUCTION MONITORING

The design plans and specifications should be reviewed and accepted by Youngdahl Consulting Group, Inc., hereinafter described as the Geotechnical Engineer, prior to contract bidding. A review should be performed to determine whether the recommendations contained within this report are still applicable and/or are properly reflected and incorporated into the project plans and specifications.

Construction Monitoring

Construction monitoring is a continuation of the findings and recommendations provided in this report. It is essential that our representative be involved with all grading activities in order for us to provide supplemental recommendations as field conditions dictate. Youngdahl Consulting Group, Inc. should be notified at least two working days before site clearing or grading operations commence, and should observe the stripping of deleterious material, overexcavation of existing fills and provide consultation to the Grading Contractor in the field.

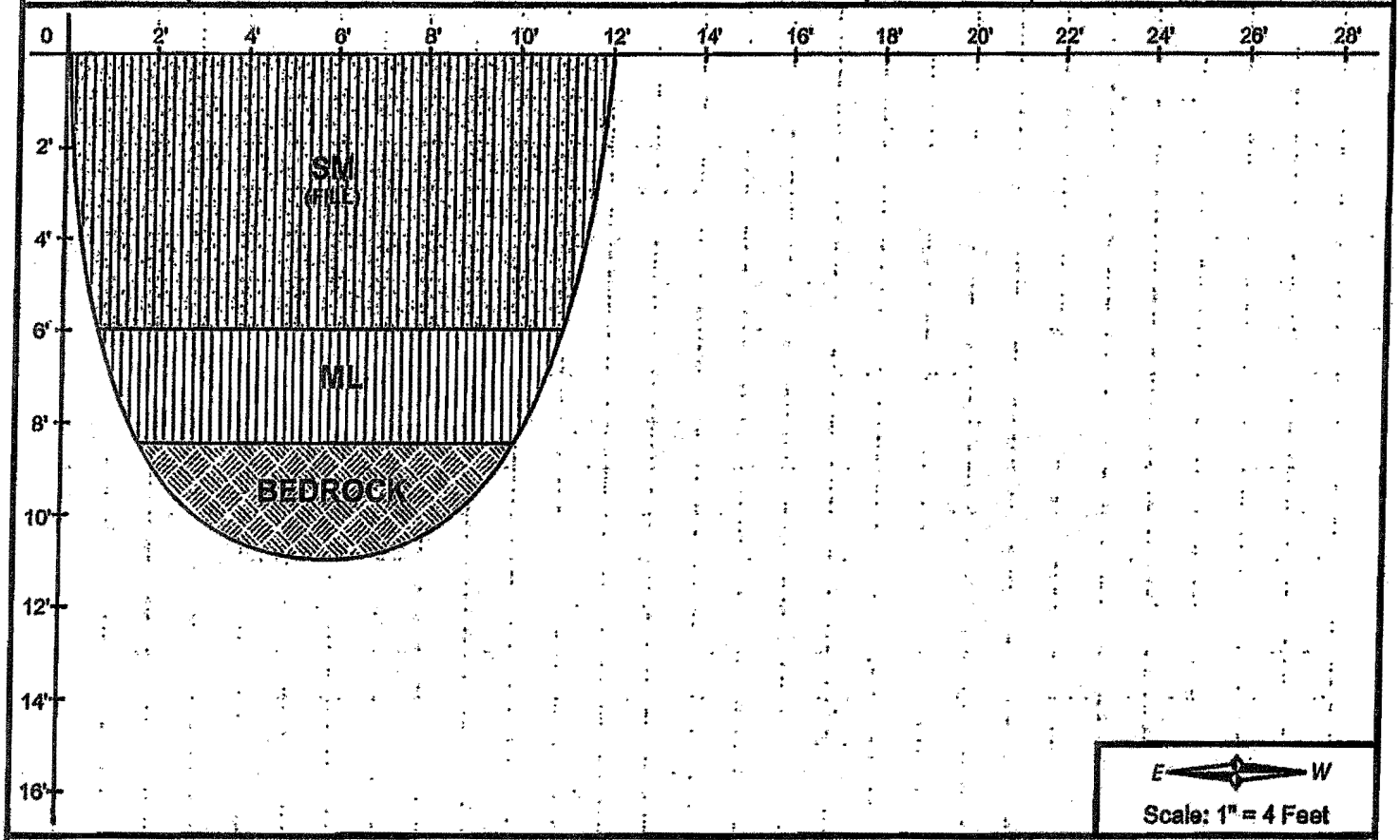
Low Impact Development Standards

Low Impact Development or LID standards have become a consideration for many projects in the region. LID standards are intended to address and mitigate urban storm water quality concerns. These methods include the use of Source Controls, Run-off Reduction and Treatment Controls. For the purpose of this report use of Run-off Reduction measures and some Treatment Controls may impact geotechnical recommendations for the project.

Youngdahl Consulting Group, Inc. did not perform any percolation or infiltration testing for the site as part of the Geotechnical Investigation. A review of soil survey and the data collected from test pits indicate that soils within the project are Hydrologic Soil Group D (low permeability). Based on this condition, use of infiltration type LID methods (infiltration trenches, dry wells, infiltration basins, permeable pavements, etc.) should not be considered without

Logged By: BKS	Date: 7 August 2012	Elevation: ~	Pit No. TP-2
Equipment: CAT 430D With 18" Bucket		Pit Orientation: E - W	

Depth (Feet)	Geotechnical Description & Unified Soil Classification	Sample	Tests & Comments
@ 0 - 6'	Yellow brown silty **SAND (SM)** with some gravel and rock fragments to 12", loose, dry (FILL)		
@ 6' - 8.5'	Red brown sandy **SILT (ML)** with some clay, medium stiff to stiff, moist		
@ 8.5' - 11'	Yellow brown completely to highly weathered **BEDROCK** (completely weathered portions break down into sands, silts, and clay)		
	Test pit terminated at 11' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC.
GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

Project No.: E12181.000

August 2012

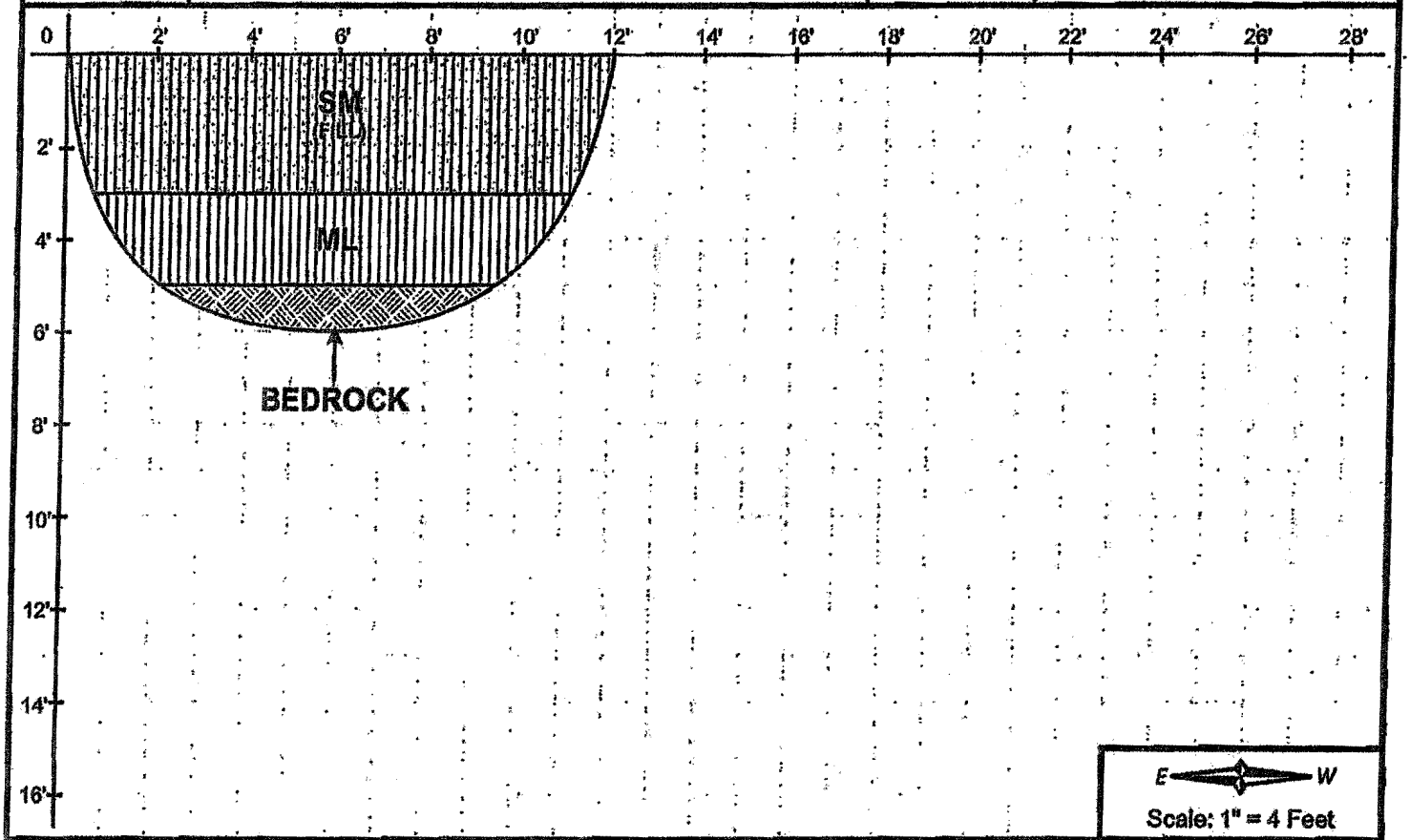
EXPLORATORY TEST PIT LOG

ARCO AM/PM
El Dorado Hills, California

FIGURE A-4

Logged By: BKS	Date: 7 August 2012	Elevation: ~	Pit No. TP-3
Equipment: CAT 430D With 18" Bucket		Pit Orientation: E - W	

Depth (Feet)	Geotechnical Description & Unified Soil Classification	Sample	Tests & Comments
@ 0 - 3'	Yellow brown silty **SAND (SM)** with rock fragments to 8", loose, dry (FILL)		*Construction debris (concrete rubble, plastic, sod netting)*
@ 3' - 5'	Red brown sandy **SILT (ML)** with rock fragments to 8", stiff, dry		
@ 5' - 6'	Yellow brown highly weathered **BEDROCK**, with black staining, dry to slightly moist		
	Test pit terminated at 6' (practical refusal) No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

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Project No.: E12181.000

August 2012

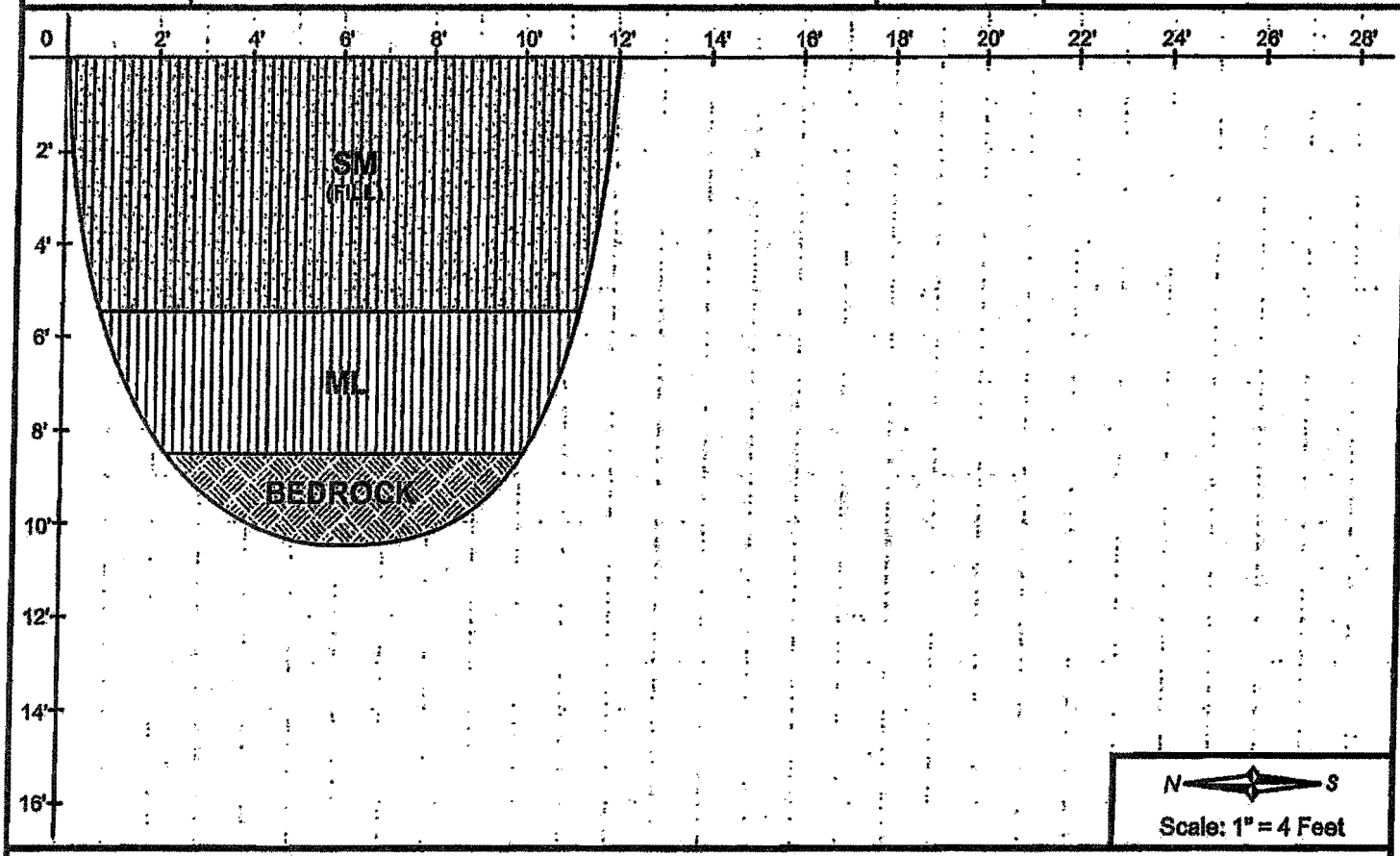
EXPLORATORY TEST PIT LOG

ARCO AM/PM
El Dorado Hills, California

FIGURE A-5

Logged By: BKS	Date: 7 August 2012	Elevation: ~	Pit No. TP-4
Equipment: CAT 430D With 18" Bucket		Pit Orientation: N - S	

Depth (Feet)	Geotechnical Description & Unified Soil Classification	Sample	Tests & Comments
@ 0 - 5.5'	Yellow brown silty **SAND (SM)** with rock fragments to 12", loose to medium dense, dry (FILL)		
@ 5.5' - 8.5'	Dark brown to gray brown sandy **SILT (ML)** with some clay, medium stiff, moist to very moist		*Strong organic odor*
@ 8.5' - 10.5'	Yellow brown completely to highly weathered **BEDROCK**, moist (completely weathered portions break down into sands, silts, and clay)		
	Test pit terminated at 10.5' No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

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Project No.: E12181.000

August 2012

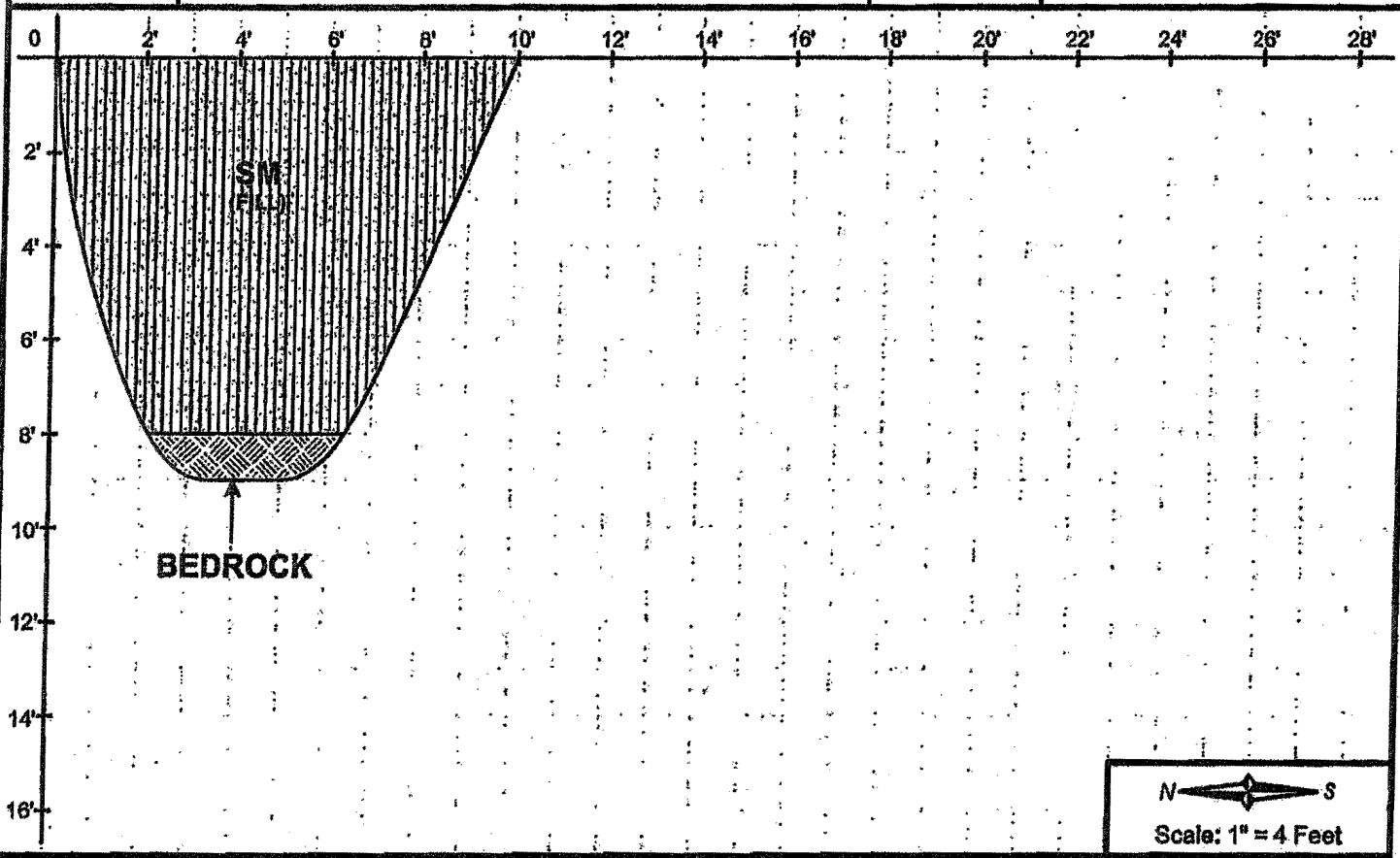
EXPLORATORY TEST PIT LOG

ARCO AM/PM
El Dorado Hills, California

FIGURE A-6

Logged By: BKS	Date: 7 August 2012	Elevation: ~	Pit No. TP-5
Equipment: CAT 430D With 18" Bucket		Pit Orientation: N - S	

Depth (Feet)	Geotechnical Description & Unified Soil Classification	Sample	Tests & Comments
@ 0 - 8'	Yellow brown silty **SAND (SM)** with gravel and boulders to 24", loose, dry to moist (FILL)	BULK 3 @ 0 - 6'	*Construction debris (plastic)*
@ 8' - 9'	Yellow brown completely to highly weathered **BEDROCK**		
	Test pit terminated at 9' (practical refusal) No free groundwater encountered Sloughing and undermining in upper 6'		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

YOUNGDAHL CONSULTING GROUP, INC.
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Project No.: E12181.000

August 2012

EXPLORATORY TEST PIT LOG

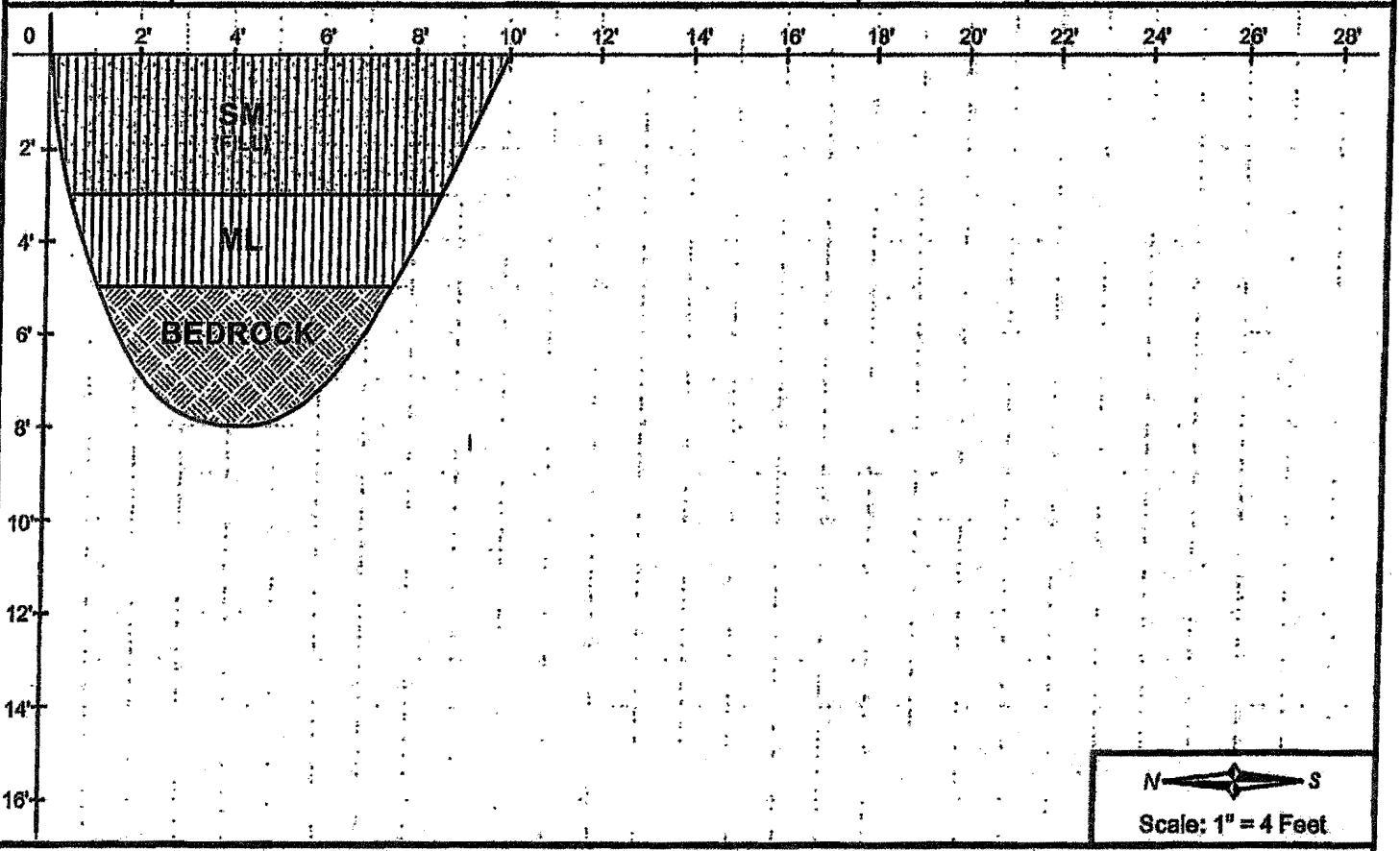
ARCO AM/PM

El Dorado Hills, California

FIGURE **A-7**

Logged By: BKS	Date: 7 August 2012	Elevation: ~	Pit No.
Equipment: CAT 430D With 18" Bucket		Pit Orientation: N - S	TP-6

Depth (Feet)	Geotechnical Description & Unified Soil Classification	Sample	Tests & Comments
@ 0 - 0.5'	Yellow silty **SAND (SM)** with gravel, loose to medium dense, dry (FILL)		
@ 0.5' - 3'	*Grades red brown (FILL)*		
@ 3' - 5'	Dark brown to gray brown sandy **SILT (ML)** with some clay, stiff, moist		*Slight organic odor*
@ 5' - 8'	Yellow brown completely to highly weathered **BEDROCK**, black staining observed, moist		
	Test pit terminated at 8' (practical refusal) No free groundwater encountered No caving noted		



Note: The test pit log indicates subsurface conditions only at the specific location and time noted. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ significantly from conditions which, in the opinion of Youngdahl Consulting Group, Inc., exist at the sampling locations. Note, too, that the passage of time may affect conditions at the sampling locations.

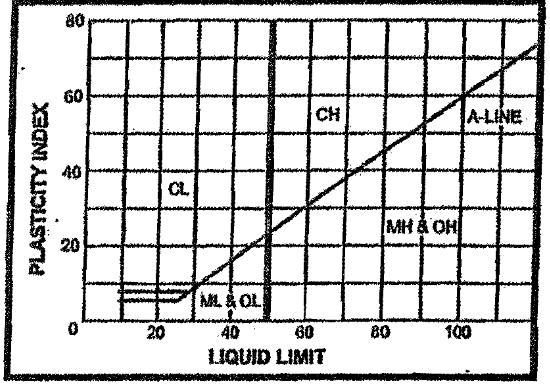
YOUNGDAHL CONSULTING GROUP, INC. GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING	Project No.: E12181.000 August 2012	EXPLORATORY TEST PIT LOG ARCO AM/PM El Dorado Hills, California	FIGURE A-8

UNIFIED SOIL CLASSIFICATION SYSTEMS

MAJOR DIVISION			SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS Over 50% > #200 sieve	GRAVELS Over 50% > #4 sieve	Clean GRAVELS With Little Or No Fines	GW	Well graded GRAVELS, GRAVEL-SAND mixtures
			GP	Poorly graded GRAVELS, GRAVEL-SAND mixtures
		GRAVELS With Over 12% Fines	GM	Silty GRAVELS, poorly graded GRAVEL-SAND-SILT mixtures
			GC	Clayey GRAVELS, poorly graded GRAVEL-SAND-CLAY mixtures
	SANDS Over 50% < #4 sieve	Clean SANDS With Little Or No Fines	SW	Well graded SANDS, gravelly SANDS
			SP	Poorly graded SANDS, gravelly SANDS
		SANDS With Over 12% Fines	SM	Silty SANDS, poorly graded SAND-SILT mixtures
			SC	Clayey SANDS, poorly graded SAND-CLAY mixtures
FINE GRAINED SOILS Over 50% < #200 sieve	SILTS & CLAYS Liquid Limit < 50		ML	Inorganic SILTS, silty or clayey fine SANDS, or clayey SILTS with plasticity
			CL	Inorganic CLAYS of low to medium plasticity, gravelly, sandy, or silty CLAYS, lean CLAYS
			OL	Organic CLAYS and organic silty CLAYS of low plasticity
	SILTS & CLAYS Liquid Limit > 50		MH	Inorganic SILTS, micaceous or diamacious fine sandy or silty soils, elastic SILTS
			CH	Inorganic CLAYS of high plasticity, fat CLAYS
			OH	Organic CLAYS of medium to high plasticity, organic SILTS
HIGHLY ORGANIC CLAYS			PT	PEAT & other highly organic soils

PLASTICITY CHART

USED FOR CLASSIFICATION OF FINE GRAINED SOILS



SAMPLE DRIVING RECORD

BLOWS PER FOOT	DESCRIPTION
25	25 Blows drove sampler 12 inches, after initial 6 inches of seating
50/7"	50 Blows drove sampler 7 inches, after initial 6 inches of seating
50/3"	50 Blows drove sampler 3 inches during or after initial 6 inches of seating

Note: To avoid damage to sampling tools, driving is limited to 50 blows per 6 inches during or after seating interval.

SOIL GRAIN SIZE

U.S. STANDARD SIEVE	6"		3"	¾"	4	10	40	200		
SOIL	BOULDER	COBBLE	GRAVEL		SAND			SILT	CLAY
			COARSE	FINE	COARSE	MEDIUM	FINE		
GRAIN SIZE IN MILLIMETERS	150		75	19	4.75	2.0	.425	0.075	0.002

KEY TO PIT & BORING SYMBOLS

- Standard Penetration test
- 2.5" O.D. Modified California Sampler
- 3" O.D. Modified California Sampler
- Shelby Tube Sampler
- 2.5" Hand Driven Liner
- Bulk Sample
- Water Level At Time Of Drilling
- Water Level After Time Of Drilling
- Perched Water

KEY TO PIT & BORING SYMBOLS

	Joint
	Foliation
	Water Seepage
NFWE	No Free Water Encountered
FWE	Free Water Encountered
REF	Sampling Refusal
DD	Dry Density (pcf)
MC	Moisture Content (%)
LL	Liquid Limit
PI	Plasticity Index
PP	Pocket Penetrometer
UCC	Unconfined Compression (ASTM D2166)
TVS	Pocket Torvane Shear
EI	Expansion Index (ASTM D4829)
Su	Undrained Shear Strength

YOUNGDAHL CONSULTING GROUP, INC. GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING	Project No.: E12181.000 August 2012	SOIL CLASSIFICATION CHART AND LOG EXPLANATION Trinity Dam Mobile Home Park Lewiston, Trinity County, California	FIGURE A-9

APPENDIX B

Laboratory Testing

Direct Shear Test
Modified Proctor Test
R-Value Test

Introduction

Our laboratory testing program for this evaluation included numerous visual classifications, a Direct Shear, Modified Proctor and R-Value test. The following paragraphs describe our procedures associated with each type of test. Graphical results of certain laboratory tests are enclosed in this appendix. The contents of this appendix shall be integrated with the geotechnical engineering study of which it is a part. They shall not be used in whole or in part as a sole source for information or recommendations regarding the subject site.

Laboratory Testing

Visual Classification Procedures

Visual soil classifications were conducted on all samples in the field and on selected samples in our laboratory. All soils were classified in general accordance with the Unified Soil Classification System, which includes color, relative moisture content, primary soil type (based on grain size), and any accessory soil types. The resulting soil classifications are presented on the exploration logs in Appendix A.

Soil Strength Determination Procedures

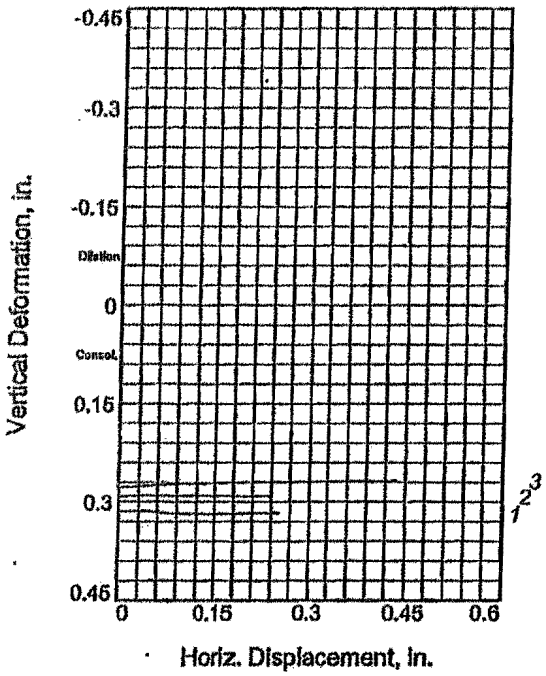
The strength parameters of the foundation soils were based on direct shear tests (ASTM D3080) performed on a relatively undisturbed sample of the near-surface soils. The results of these tests are presented on Figure B-1, this Appendix.

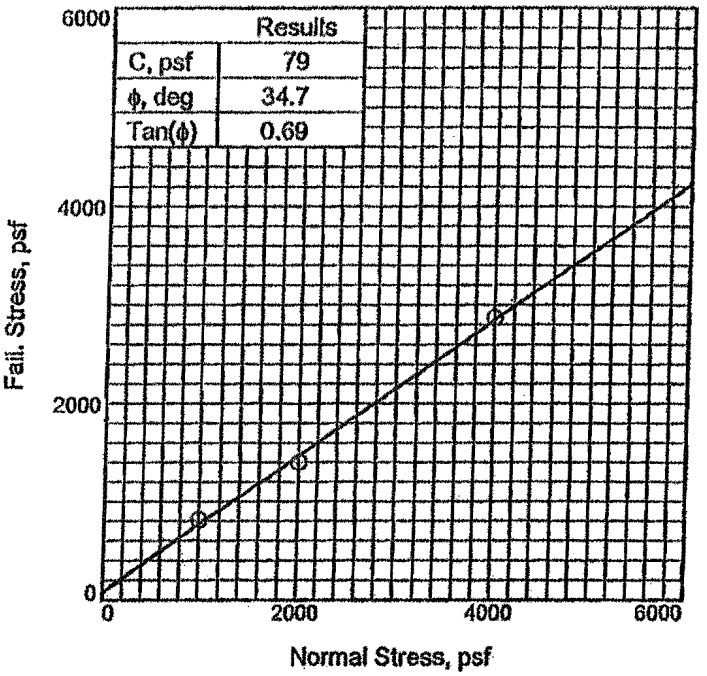
Maximum Dry Density Determination Procedures

A modified Proctor Test (ASTM D1557) was conducted to provide the optimum moisture and maximum dry density on the near surface material. The results of this test are presented on Figure B-2, this Appendix.

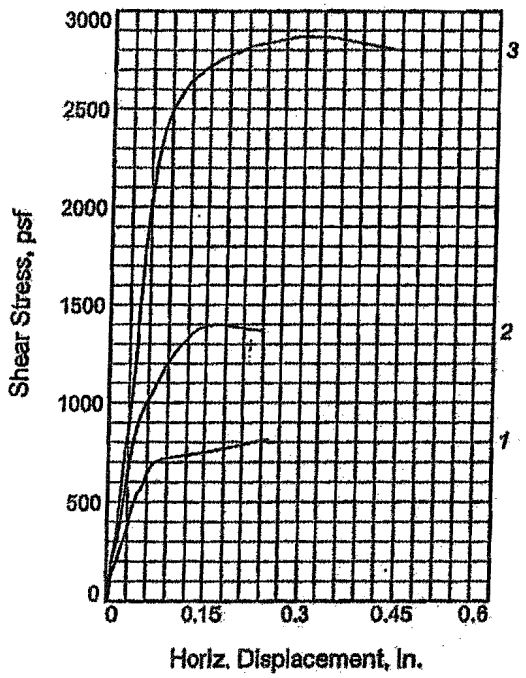
Resistance Value Determination Procedures

R-Value tests (California Test Method 301 - F) were performed to obtain asphalt concrete pavement design parameters. The results of this test are presented on Figure B-3, this Appendix.





Results	
C, psf	79
ϕ, deg	34.7
Tan(ϕ)	0.69



Sample No.		1	2	3
Initial	Water Content, %	10.3	10.3	6.3
	Dry Density, pcf	119.2	119.2	123.6
	Saturation, %	64.1	64.1	44.5
	Void Ratio	0.4408	0.4408	0.3889
	Diameter, in.	2.500	2.500	2.500
	Height, in.	1.000	1.000	1.000
At Test	Water Content, %	15.2	14.4	12.1
	Dry Density, pcf	121.0	122.9	128.9
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.4192	0.3971	0.3320
	Diameter, in.	2.500	2.500	2.500
	Height, in.	0.985	0.970	0.959
Normal Stress, psf		1000	2000	4000
Fail. Stress, psf		814	1400	2869
Displacement, in.		0.250	0.167	0.290
Ult. Stress, psf				
Displacement, in.				
Strain rate, %/min.		0.0025	0.0025	0.0025

Sample Type:
Description: Yellow Brown Silty SAND w/ trace clay

Assumed Specific Gravity= 2.75
Remarks: Remolded to 90% of 133.0 pcf

Client:

Project: Arco AM/PM

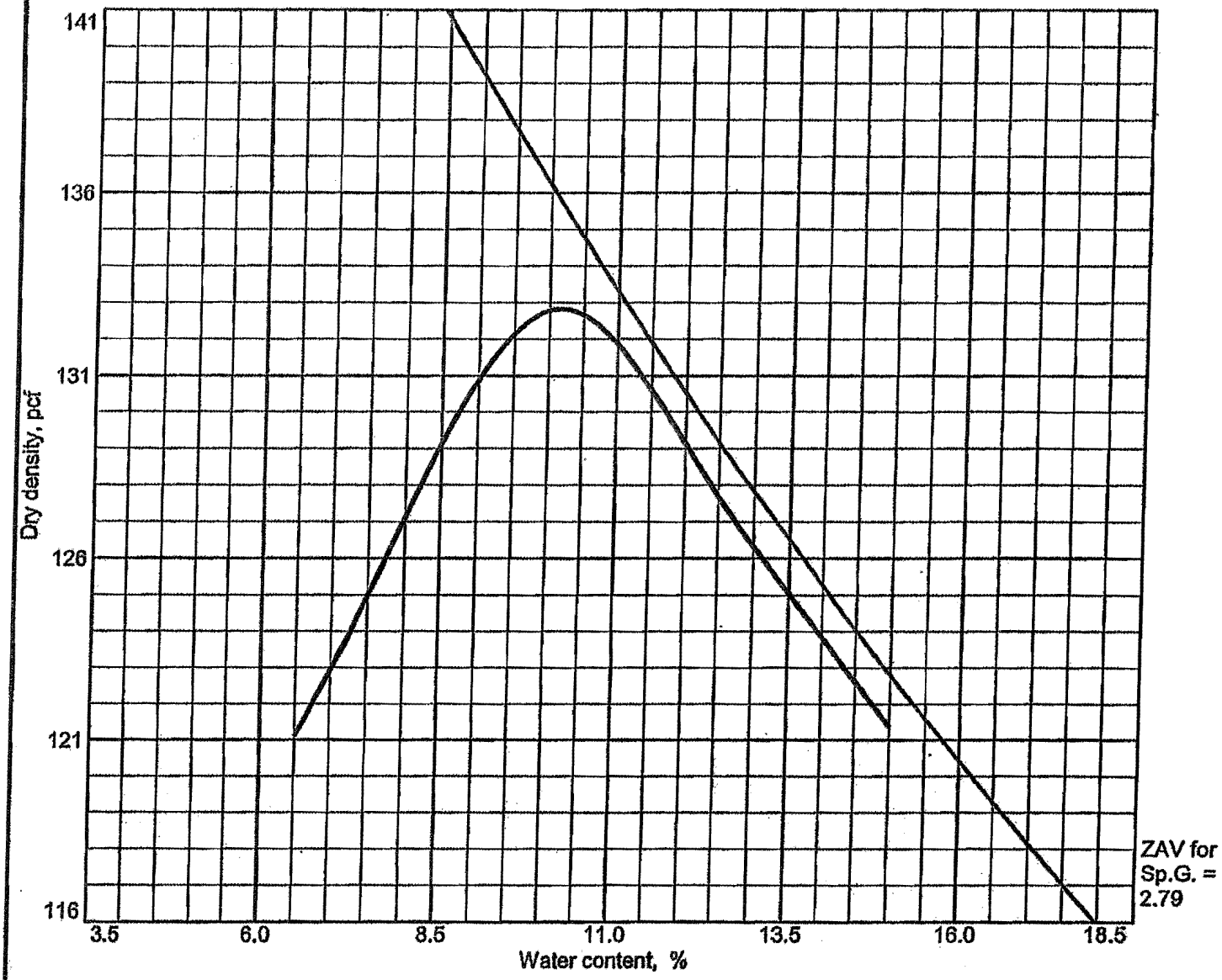
Source of Sample: Native
Sample Number: Bulk 1 & 3, TP-1 & 5
Proj. No.: E12181.000 **Date Sampled:**

DIRECT SHEAR TEST REPORT

YOUNGDAHL CONSULTING GROUP, INC.

Figure B-1

COMPACTION TEST REPORT



Test specification: ASTM D 1557-00 Method A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
				2.75				

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 133.0 pcf Optimum moisture = 10.0 %	Yellow Brown Silty SAND w/ trace clay

Project No. E12181.000 **Client:**

Project: Arco AM/PM

Date: 8/8/12

● **Source:** Native **Sample No.:** Bulk 1 & 3, TP-1 & 5

Remarks:

YOUNGDAHL CONSULTING GROUP, INC.

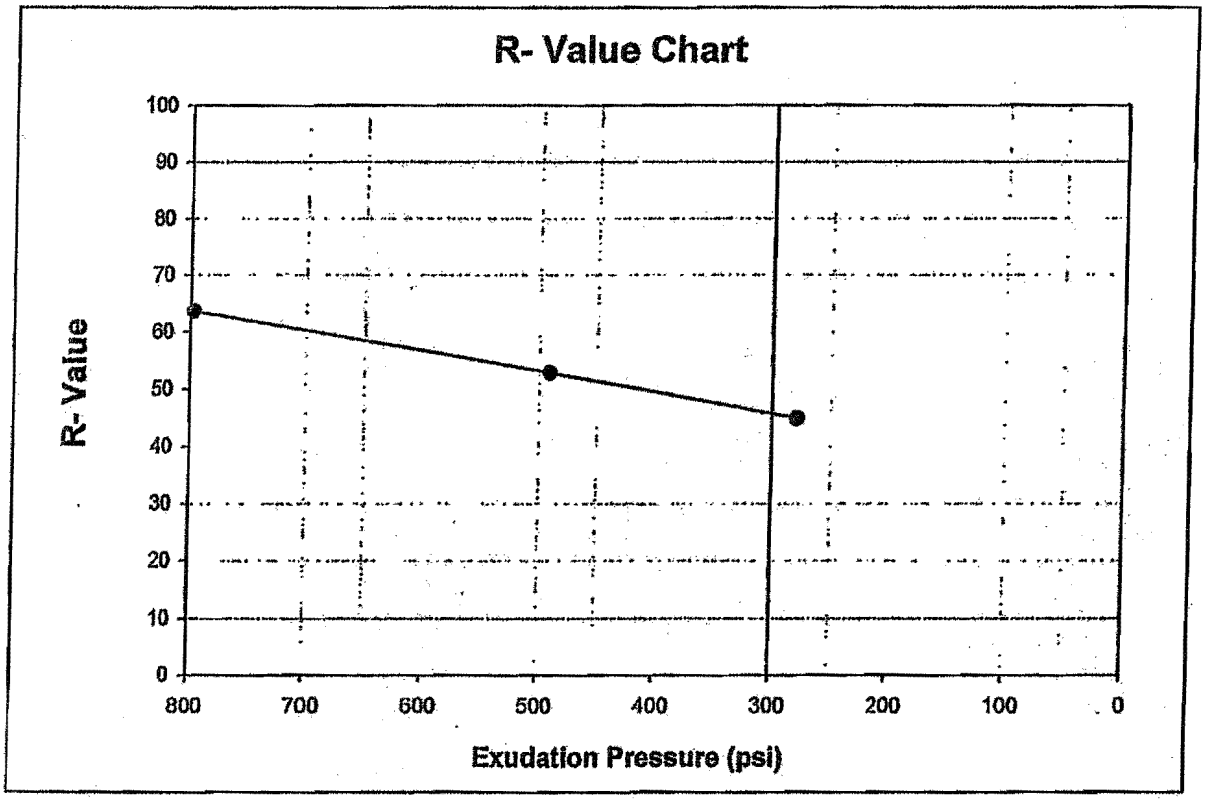
El Dorado Hills, California

RESISTANCE VALUE TEST (Cal Test 301, ASTM D2844)

Sample I.D.: Bulk 1& 3, TP-1 & 5 Depth:

Description: Yellow Brown Silty SAND w/ trace clay

Test Specimen	M	U	W
Moisture Content (%)	12.9	12.3	11.8
Dry Density (pcf)	127.5	127.9	128.6
Expansion Dial (0.0001")	15	25	52
Expansion Pressure (psf)	65.0	108.3	225.2
Exudation Pressure (psi)	278.5	491.0	796.6
Resistance Value "R"	45	53	64
R Value at 300 psi Exudation Pressure:			**46**



YOUNGDAHL CONSULTING GROUP, INC.
GEOTECHNICAL • ENVIRONMENTAL • MATERIALS TESTING

ARCO AM/PM		
PROJECT NO	DATE	FIGURE NO.
E12181.000	July 2012	B-3

El Dorado Irrigation District

In Reply Refer To: FIL1212-023

December 7, 2012

Marc Strauch
The Strauch Companies
301 Natoma Street, Suite 202
Folsom, CA 95630

SUBJECT: Facility Improvement Letter (FIL), Arco – El Dorado Hills
Assessor's Parcel No. 124-301-46 (El Dorado Hills)

Dear Mr. Strauch:

This letter is in response to your request dated October 24, 2012. This letter is valid for a period of three years. If facility improvement plans for your project have not been submitted to the District within three years of the date of this letter, a new Facility Improvement Letter will be required.

Design drawings for your project must be in conformance with the District's *Water, Sewer and Recycled Water Design and Construction Standards*.

This project is a commercial development on 2.1 acres. Water service, sewer service, private fire service and fire hydrants are requested. The property is within the District boundary. This letter is not a commitment to serve, but does address the location and approximate capacity of existing facilities that may be available to serve your project.

Assessment District No. 3

Assessment District No. 3 (AD3) was established to provide water and sewer facilities to serve the El Dorado Hills area. The property is in AD3 and currently has an allotment of 13 equivalent dwelling units (EDUs) of water and sewer service.

Water Supply

In terms of water supply, as of January 1, 2012, there were approximately 4,752 equivalent dwelling units (EDUs) available in the El Dorado Hills Water Supply Region. Your project as proposed on this date would require 10 EDUs of water supply.

ATTACHMENT 18

Water Facilities

An 8-inch water line exists in Sophia Parkway and 6-inch water line is located along the eastern property line of your parcel (see enclosed System Map). The El Dorado Hills Fire Department has determined that the minimum fire flow for this project is 1500 GPM for a two-hour duration while maintaining a 20-psi residual pressure. According to the District's hydraulic model, the existing system can deliver the required fire flow. In order to provide this fire flow and receive service, you must construct a water line extension connecting to both of the previously mentioned water lines. The hydraulic grade line for the existing water distribution facilities is 637 feet above mean sea level at static conditions and 571 feet above mean sea level during fire flow and maximum day demands.

The flow predicted above was developed using a computer model and is not an actual field flow test.

Sewer Facilities

A sewer lift station (Promontory No.3) is located approximately 200 feet south of the property to be developed. There are two 6-inch gravity sewer lines located in Sophia Parkway, near the lift station. These sewer lines have adequate capacity at this time. In order to receive service from either of these lines, an extension of facilities of adequate size must be constructed. This project is subject to the Promontory Applicant Reimbursement Agreements and you will be required to pay reimbursement for the cost of constructing two regional sewer trunk lines and sewer lift station. Please contact EID Development Services at (530)642-4513 for more information regarding the reimbursement amounts. Your project as proposed on this date would require 10 EDUs of sewer service.

Easement Requirements

Proposed water lines, sewer lines and related facilities must be located within an easement accessible by conventional maintenance vehicles. When the water lines or sewer lines are within streets, they shall be located within the paved section of the roadway. No structures will be permitted within the easements of any existing or proposed facilities. The District must have unobstructed access to these easements at all times, and does not generally allow water or sewer facilities along lot lines.

Easements for any new District facilities constructed by this project must be granted to the District prior to District approval of water and/or sewer improvement plans, whether onsite or offsite. In addition, due to either nonexistent or prescriptive easements for some older facilities, any existing onsite District facilities that will remain in place after the development of this property must also have an easement granted to the District.

Environmental

The County is the lead agency for environmental review of this project per Section 15051 of the California Environmental Quality Act Guidelines (CEQA). The County's environmental document should include a review of both offsite and onsite water and sewer facilities that may be constructed by this project. You may be requested to submit a copy of the County's environmental document to the District if your project involves significant off-site facilities. If the County's environmental document does not address all water and sewer facilities and they are not exempt from environmental review, a supplemental environmental document will be required. This document would be prepared by a consultant. It could require several months to prepare and you would be responsible for its cost.

Summary

Service to this proposed development is contingent upon the following:

- The availability of uncommitted water supplies at the time service is requested.
- Approval of the County's environmental document by the District (if requested)
- Approval of an extension of facilities application by the District
- Executed grant documents for all required easements
- Approval of facility improvement plans by the District
- Construction by the developer of all onsite and offsite proposed water and sewer facilities
- Acceptance of these facilities by the District
- Payment of all District connection costs

Services shall be provided in accordance with El Dorado Irrigation District Board Policies and Administrative Regulations, as amended from time-to-time. As they relate to conditions of and fees for extension of service, District Administrative Regulations will apply as of the date of a fully executed Extension of Facilities Agreement.

If you have any questions, please contact Marc Mackay at (530) 642-4135.

Sincerely,

EL DORADO IRRIGATION DISTRICT

Elizabeth D. Wells, P.E.
Engineering Division Manager

EW/MM:lk

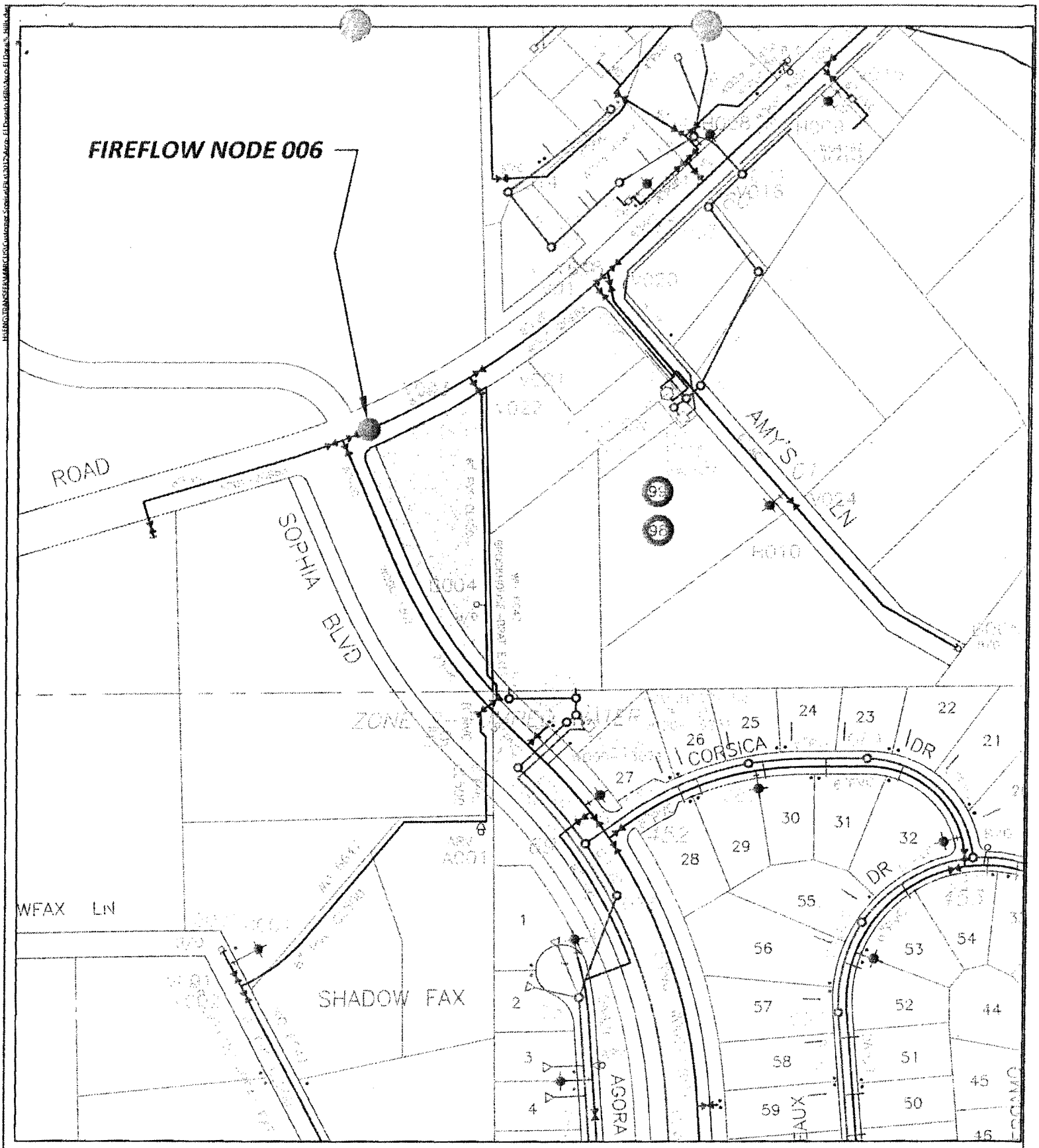
Enclosures: System Map

cc: w/enclosure

Michael Lilienthal, Battalion Chief/Fire Marshal, El Dorado Hills Fire Department
1050 Wilson Blvd, El Dorado Hills, CA 95762

Roger Trout, Director- El Dorado County Development Services Department,
2850 Fairlane Court, Placerville, CA 95667

Eric Ramsing, Barghausen Consulting Engineers,
18215 72nd Avenue, S.Kent, WA 98032



El Dorado Irrigation District
System Map

DATE: December 7, 2012

WARNING: For schematic purposes only. Exact pipe location must be field verified.

ARCO–El Dorado Hills

APN: 124–301–46

WATERLINE

SEWERLINE

Scale: 1" = 250'

SYS. No.: 80–28